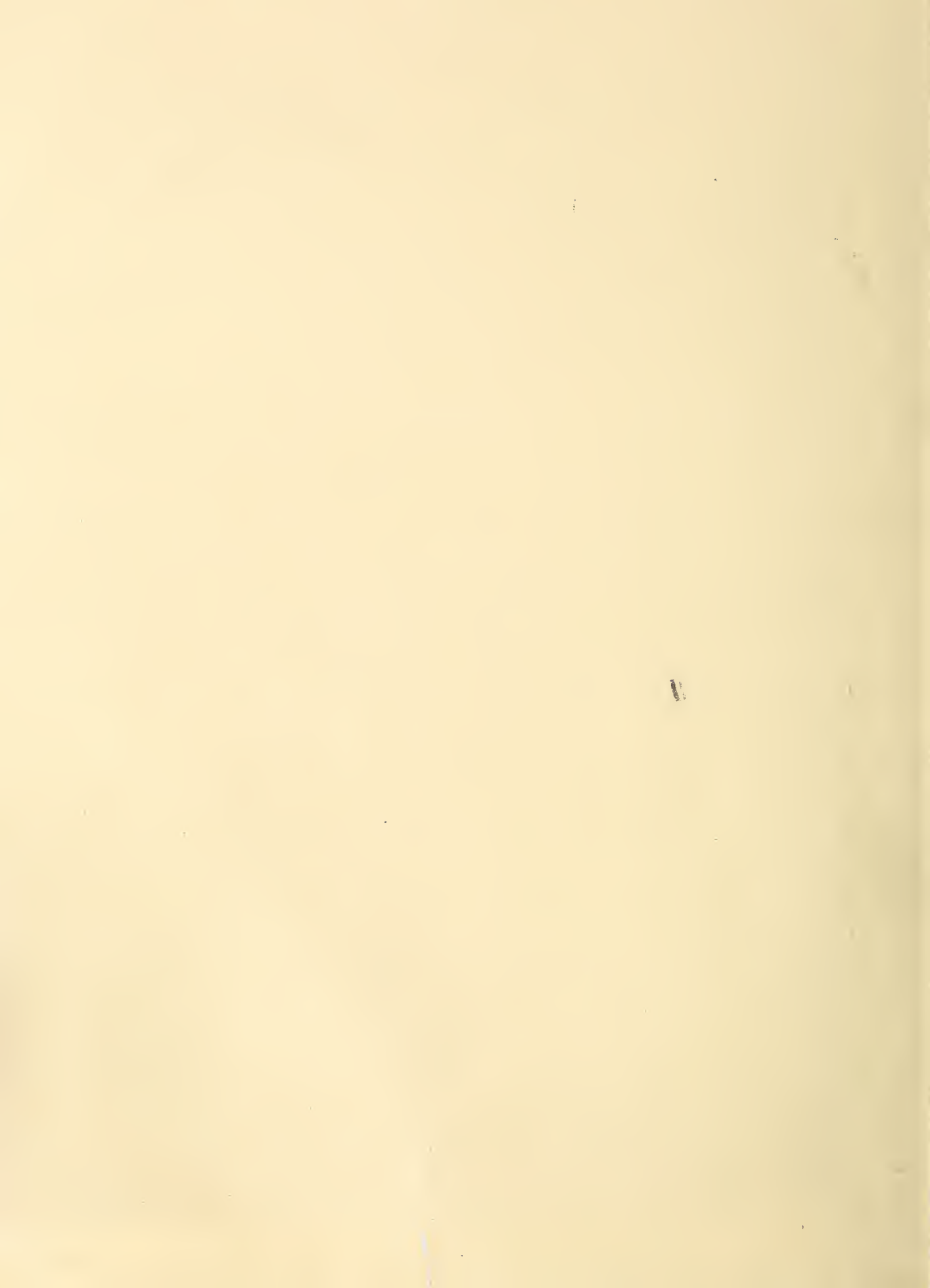


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R23
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United States
Department of
Agriculture

Forest Service

Tongass National
Forest
Stikine Area
R10-MB-293B

August 1995



Shamrock Timber Sale(s)

Final Environmental Impact Statement

Volume II Appendices A through G

Stikine Area

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R04 MM-1 A 023

Shamrock Timber Sale(s)

Final Environmental Impact Statement

**Tongass National Forest - Stikine Area
USDA Forest Service
Alaska Region**

Lead Agency: Tongass National Forest, Stikine Area
15 -- 12th Street
P.O. Box 309
Petersburg, Alaska 99833

Responsible Official Abigail R. Kimbell, Forest Supervisor
Tongass National Forest, Stikine Area

**For Further Information
Contact:** Jim Thompson
Tongass National Forest, Stikine Area
Petersburg Ranger District
P.O. Box 1328
(907) 772-3871

Abstract: This Final Environmental Impact Statement describes the effects of four "action" alternative approaches and one "no action" approach to harvesting timber in the Shamrock analysis area on Kupreanof Island.

Appendices

Appendix A: Unit Descriptions

Appendix B: Road Descriptions

Appendix C: Figures Supporting Subsistence Inventories

Appendix D: Road Management Objectives

Appendix E: Northern Goshawk Interim Guidelines

Appendix F: Public Comments to Draft EIS and Forest Service Responses

Appendix G: Public Comments to Draft EIS Supplement and Forest Service Responses

Appendix A

Unit Descriptions

Appendix A

Unit Descriptions

The following are the descriptions of the units proposed in all action alternatives. These descriptions show the major attributes of each harvest unit and considerations used during harvest unit design. Specific resource concerns and mitigations are cited.

During the preliminary planning stage, tentative harvest units and roads were identified. During the ID Team analysis, harvest units were evaluated and subsequent adjustments to units were made. The results of this analysis are presented in the unit following descriptions.

Unit descriptions show the major resource concerns associated with each harvest unit. In most situations the ID Team was able to recommend appropriate mitigations. There are, however, several instances where mitigations were not considered feasible and were not recommended. For example, retaining live trees and snags was only recommended in areas where the ID Team judged these mitigations to be feasible. The concern for retaining trees and snags from the harvested "old-growth" is universal to all harvest units, but is only shown where these mitigations are feasible. Individual trees will be left to contribute to future stand structure along setting boundaries and roads, wherever it is compatible with safety and logging feasibility. Windthrow was also a common concern in the design and location of all units, but measures to ensure windfirm boundaries were not included in the unit descriptions because they were similar among units.

Mapping and resolution limitations of data bases make it difficult to depict the smaller drainages. A majority of the smaller Class III streams are identified on these descriptions, and the major problem areas are addressed. During layout, additional situations may be encountered and will be resolved on a case-by-case basis. The important thing to remember is that the unit descriptions may not be an exact replication of ground conditions or the results of any subsequent layout efforts.

It has to be anticipated that there will be some minor changes to the units as depicted on these descriptions. It is virtually impossible, without field verification of every unit boundary, to not have some changes. Exact conformance to preset lines, regardless of values, would not be proper management. Opportunities to not only protect newly discovered situations but also to optimize management intent without changing the environmental impacts have to be instituted. The resources, as they are now known and analyzed, have been protected or enhanced to the greatest extent practicable.

The reader will notice that several unit numbers are missing. During the environmental analysis several units were deleted from further consideration and were not part of the final unit pool for the action alternatives.

These unit descriptions summarize the ID Team analysis of the units. Comments on the unit design cards are part of the planning file Logging Engineering Resource Inventory Report. Unit Design Cards will be used during the layout and harvest of units and the survey and construction of roads.

The rotation length generally recommended for harvested units is 100 years. The Revised Forest Plan specifies that the final harvest of second-growth stands will be equal to or greater than 95 percent of the culmination of mean annual increment (CMAI), the age at which the volume increment for a stand of trees has achieved its highest mean volume. The actual rotation age will be based on the measured growth of each harvest unit, along with other resource considerations. As a result, rotation ages could be longer than 100 years.

Shamrock Timber Sale Unit Number: 1 Acres: 10 VCU: 438 ALT: 2, 3, 4, 5

DEVELOPMENT OF UNIT BOUNDARY

During the preliminary planning stage, this unit was originally 20 acres and included an alluvial area surrounding a Class II stream. The alluvial area was deleted from the unit during the environmental analysis. The proposed north boundary was relocated 100 feet from the Class II stream channel. As a result, unit size was reduced to 10 acres to be logged in one cable setting.

RESOURCE CONFLICTS AND MITIGATIONS

Water Quality/Fisheries

Conflict: Class II stream is located in close proximity to north unit boundary.

Mitigation: Unit boundary is located to provide a 100 foot no-cut buffer strip along Class II stream.

DESCRIPTION OF UNIT ATTRIBUTES/OBJECTIVES

Road Development: (Rounded to nearest 0.1 mile)

0.2 Miles of Specified Road within Unit.

0 Miles of spur road anticipated.

1 Landings

Timber Attributes:

237 MBF Estimated total volume within unit (net sawlog)

24 MBF Estimated volume per acre harvested within unit

Acres by Volume Class within unit:

1 Volume Class 4 (8-20 MBF/acre)

9 Volume Class 5 (20-30 MBF/acre)

Volume Class 6 (30-50 MBF/acre)

Volume Class 7 (50+ MBF/acre)

Stand Management Objectives: Even Age

Rotation Period: 100 years

Regeneration Method: Natural

Anticipated Treatments: Precommercial Thinning

Other Timber Considerations: Monitor to insure Sitka spruce and Alaska-cedar regeneration because of competing vegetation.

PROPOSED ACTION OR DEVELOPMENT

Unit is planned for cable yarding to one landing.

AREA: SHAMROCK

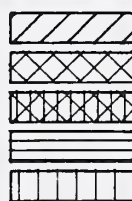
UNIT:1

ACRES:10

VCU: 438



FOREST DEVELOPMENT ROADS
TEMPORARY ROADS
UNIT BOUNDARY
SETTING BOUNDARIES
CLASS 1 STREAMS
CLASS 2 STREAMS
CLASS 3 STREAMS
LANDINGS (NUMBERED)



LAKES
TTRA BUFFER FOR STREAMS/LAKES
LAKE PROTECTION ZONE (TO 500')
NORTH IRISH TIMBER SALE UNITS
ELIGIBLE WILD AND SCENIC
RIVER AREAS

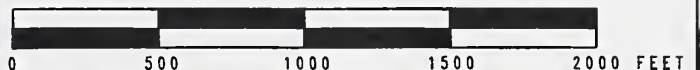
LOGGING METHOD CODES: S = SHOVEL
H = HELICOPTER C = CABLE
P = CABLE/PARTIAL SUSPENSION

ID TEAM UNIT OBJECTIVE SUMMARY

Prescribed By: Brad Seaberg 5/21/93
Silviculturist Date
Reviewed By: David Chapin 5/21/93
I.D. Team Leader Date

FLIGHT LINE: 23 PHOTO#: 688-170

CONTOUR INTERVAL 100 FEET
SCALE 1:7920 1 INCH = 660 FEET



DEVELOPMENT OF UNIT BOUNDARY

During the IDT analysis of this unit, the upper part of this unit was deleted to exclude non-commercial forest land. A additional setting was added to the east side of the unit.

RESOURCE CONFLICTS AND MITIGATIONS

Soil/Water Quality/Fisheries

- Conflict: One Class III V-notch grades into a Class II channel at the bottom of the unit.
Mitigation: Split-yard V-Notch; Unit boundary is located to provide a 100 foot no-cut strip along Class II stream.
- Conflict: Lake is located in close proximity to unit.
Mitigation: Unit boundary is located to provide a 500 foot buffer around lake in accordance with guidelines in the Draft Revision of TLMP.

Visual Management

- Concern: Lake is located in close proximity to unit.
Mitigation: Maintain 500 foot no-harvest buffer strip around lake and exclude from unit.

DESCRIPTION OF UNIT ATTRIBUTES/OBJECTIVES

- Road Development: (Rounded to nearest 0.1 mile)
- | | |
|------------|--------------------------------------|
| <u>0.5</u> | Miles of Specified Road within Unit. |
| <u>0</u> | Miles of spur road anticipated. |
| <u>4</u> | Landings |

Timber Attributes:

- | | |
|----------------|-------------------------------------------------|
| <u>523 MBF</u> | Estimated total volume within unit (net sawlog) |
| <u>20 MBF</u> | Estimated volume per acre harvested within unit |
| | Acres by Volume Class within unit: |
| <u>10</u> | Volume Class 4 (8-20 MBF/acre) |
| <u>16</u> | Volume Class 5 (20-30 MBF/acre) |
| | Volume Class 6 (30-50 MBF/acre) |
| | Volume Class 7 (50+ MBF/acre) |

Stand Management Objectives: Even Age

Rotation Period: 100 years

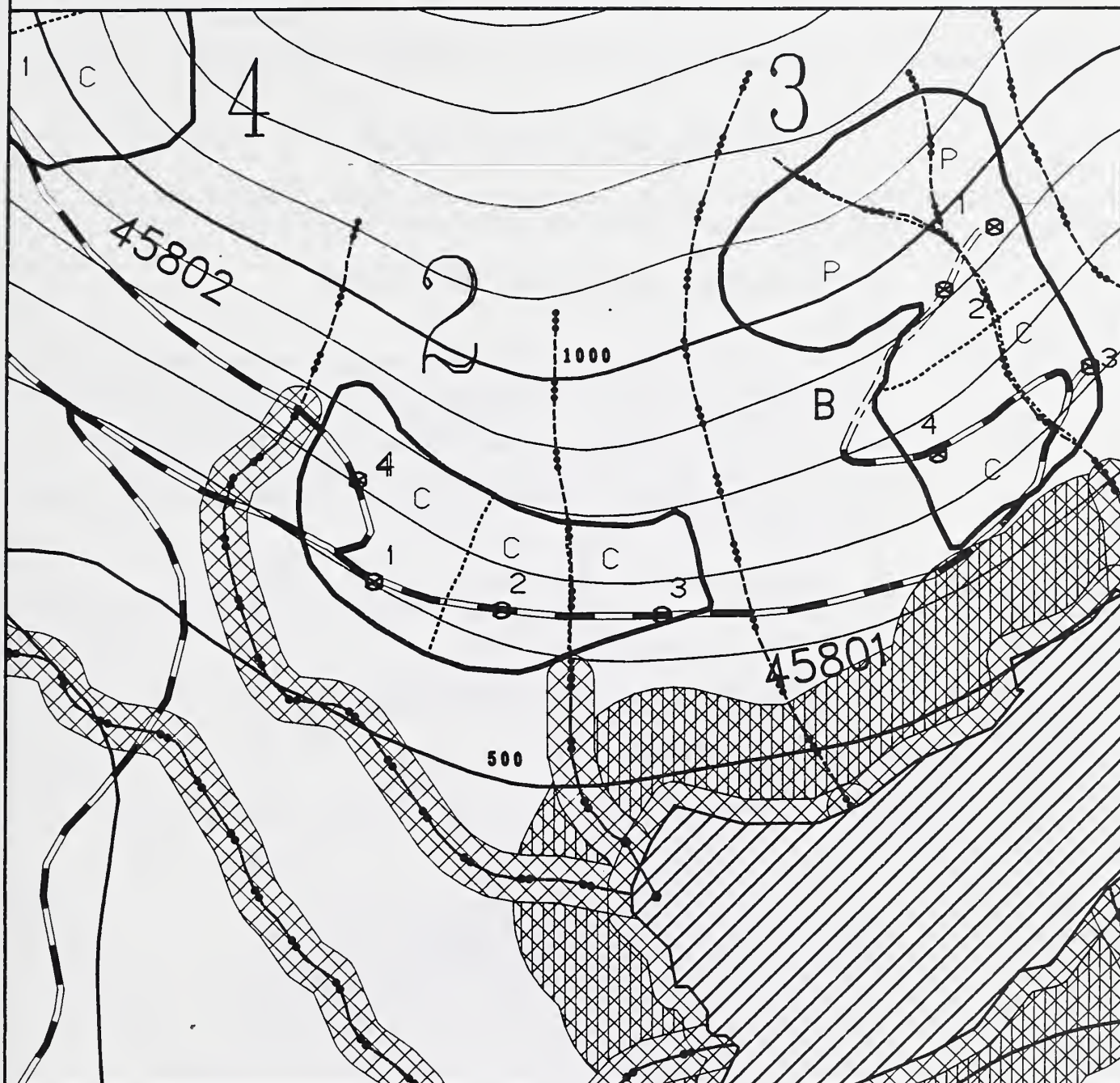
Regeneration Method: Natural

Anticipated Treatments: Precommercial Thinning

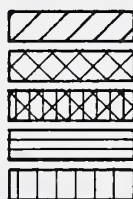
Other Timber Considerations: None

PROPOSED ACTION OR DEVELOPMENT

Unit is planned for cable yarding in 4 settings.



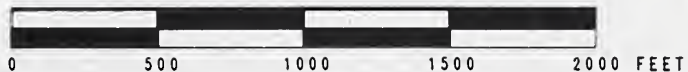
FOREST DEVELOPMENT ROADS
 TEMPORARY ROADS
 UNIT BOUNDARY
 SETTING BOUNDARIES
 CLASS 1 STREAMS
 CLASS 2 STREAMS
 CLASS 3 STREAMS
 LANDINGS (NUMBERED)



LAKES
 TTRA BUFFER FOR STREAMS/LAKES
 LAKE PROTECTION ZONE (TO 500')
 NORTH IRISH TIMBER SALE UNITS
 ELIGIBLE WILD AND SCENIC
 RIVER AREAS

LOGGING METHOD CODES: S = SHOVEL
 H = HELICOPTER C = CABLE
 P = CABLE/PARTIAL SUSPENSION

CONTOUR INTERVAL 100 FEET
 SCALE 1:7920 1 INCH = 660 FEET



ID TEAM UNIT OBJECTIVE SUMMARY

Prescribed By: Brad Seaberg 5/21/93
 Silviculturist Date
 Reviewed By: David Chapin 5/21/93
 I.D. Team Leader Date
 FLIGHT LINE: 23 PHOTO#: 688-170

DEVELOPMENT OF UNIT BOUNDARY

The east boundary of this unit follows a Class III stream V-notch stream channel. Unit boundaries were dictated by non-commercial forest land and a 500 foot lake buffer around Kluane Lake.

RESOURCE CONFLICTS AND MITIGATIONS

Soil/Water Quality/Fisheries

- Conflict: One Class III V-notch is near the east boundary of unit; Class III stream grades into Class II stream; Class III stream channels are located in the north part of harvest unit.
- Mitigation: Yard timber away from V-notch on east boundary. Unit boundary is located to exclude a 100 foot no-cut buffer strip along Class II stream. Split-yard Class III stream where possible. Use partial suspension in north half of harvest unit to minimize channel disturbance to Class III streams. Require removal of logging debris from Class III stream channels.
- Conflict: Lake is located in close proximity to unit.
- Mitigation: Unit boundary is located to provide a 500 foot buffer around lake in accordance with guidelines in the Draft Revision of TLMP.

DESCRIPTION OF UNIT ATTRIBUTES/OBJECTIVES

Road Development: (Rounded to nearest 0.1 mile)

- 0.5 Miles of Specified Road within Unit.
- 0.2 Miles of spur road anticipated.
- 4 Landings

Timber Attributes:

- 611 MBF Estimated total volume within unit (net sawlog)
- 16 MBF Estimated volume per acre harvested within unit
- Acres by Volume Class within unit:
- 27 Volume Class 4 (8-20 MBF/acre)
- 11 Volume Class 5 (20-30 MBF/acre)
- Volume Class 6 (30-50 MBF/acre)
- Volume Class 7 (50+ MBF/acre)

Stand Management Objectives: Even Age

Rotation Period: 100 years

Regeneration Method: Natural

Anticipated Treatments: Precommercial Thinning

Other Timber Considerations: None

PROPOSED ACTION OR DEVELOPMENT

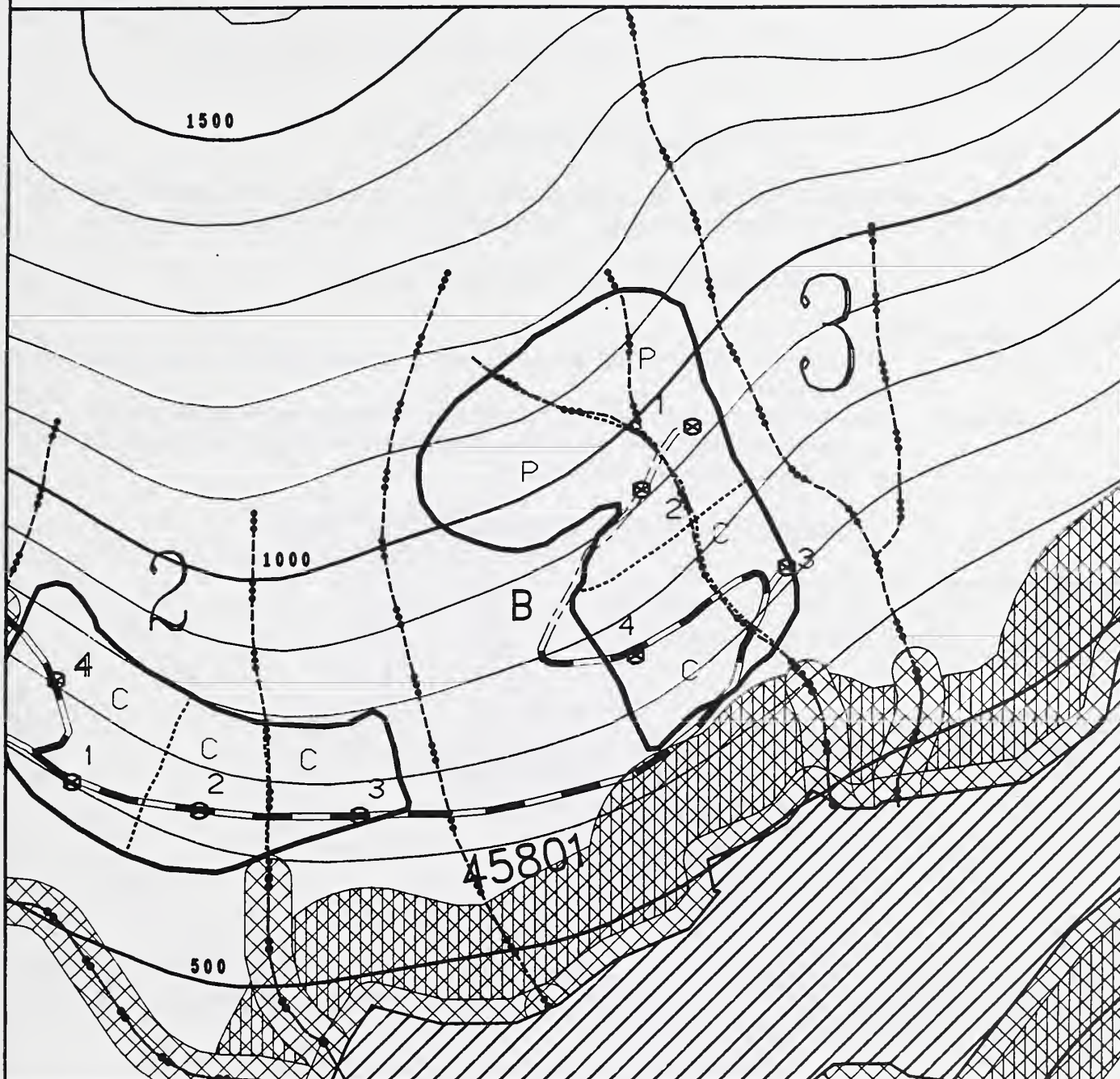
Unit is planned to be cable logged to four landings. Partial suspension would be required to minimize surface disturbance when yarding sloped above Landings 1 and 2.

AREA: SHAMROCK

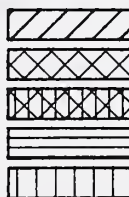
UNIT: 3

ACRES: 38

VCU: 438



FOREST DEVELOPMENT ROADS
 TEMPORARY ROADS
 UNIT BOUNDARY
 SETTING BOUNDARIES
 CLASS 1 STREAMS
 CLASS 2 STREAMS
 CLASS 3 STREAMS
 LANDINGS (NUMBERED)



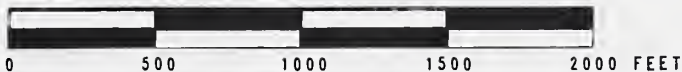
LAKES
 TTRA BUFFER FOR STREAMS/LAKES
 LAKE PROTECTION ZONE (TO 500')
 NORTH IRISH TIMBER SALE UNITS
 ELIGIBLE WILD AND SCENIC
 RIVER AREAS

LOGGING METHOD CODES: S = SHOVEL
 H = HELICOPTER C = CABLE
 P = CABLE/PARTIAL SUSPENSION

ID TEAM UNIT OBJECTIVE SUMMARY

Prescribed By: Brad Seaberg 5/21/93
 Silviculturist Date
 Reviewed By: David Chapin 5/21/93
 I.D. Team Leader Date
 FLIGHT LINE: 23 PHOTO#: 688-170

CONTOUR INTERVAL 100 FEET
 SCALE 1:7920 1 INCH = 660 FEET



DEVELOPMENT OF UNIT BOUNDARY

Unit boundaries are dictated by a V-notch on the north boundary and noncommercial forest timber on the east boundary. An area in the southwest corner of the unit was deleted to the proximity to a Class II stream.

RESOURCE CONFLICTS AND MITIGATIONS

Soil/Water Quality/Fisheries

Conflict: One Class III V-notch is near the north boundary of unit; Class III stream grades into Class II stream.

Mitigation: Yard timber away from V-notch; Use slackline yarding system to obtain partial suspension in north half of harvest unit. Unit boundary is located to provide 100 foot no-cut buffer along Class II stream.

DESCRIPTION OF UNIT ATTRIBUTES/OBJECTIVES

Road Development: (Rounded to nearest 0.1 mile)

0.5 Miles of Specified Road within Unit.

0 Miles of spur road anticipated.

2 Landings

Timber Attributes:

610 MBF Estimated total volume within unit (net sawlog)

23 MBF Estimated volume per acre harvested within unit

Acres by Volume Class within unit:

3 Volume Class 4 (8-20 MBF/acre)

23 Volume Class 5 (20-30 MBF/acre)

Volume Class 6 (30-50 MBF/acre)

Volume Class 7 (50+ MBF/acre)

Stand Management Objectives: Even Age

Rotation Period: 100 years

Regeneration Method: Natural

Anticipated Treatments: Precommercial Thinning

Other Timber Considerations: None

PROPOSED ACTION OR DEVELOPMENT

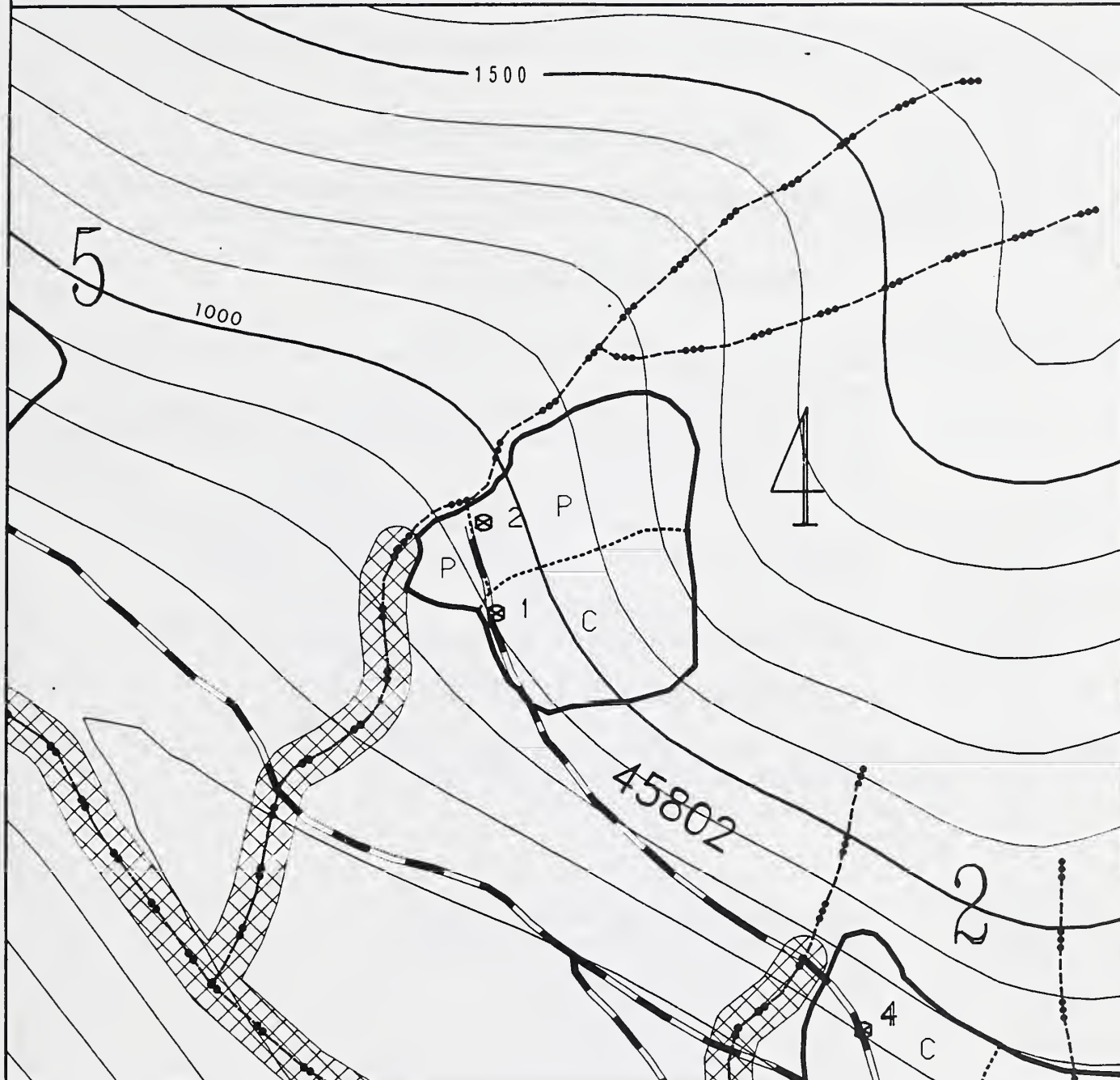
Unit is planned to be cable logged to two landings. Due to the proximity of the stream channel in the north half of the unit, partial suspension would be required when yarding logs to Landing 2.

AREA: SHAMROCK

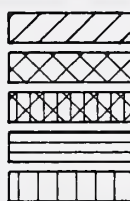
UNIT: 4

ACRES: 26

VCU: 429/438



FOREST DEVELOPMENT ROADS
TEMPORARY ROADS
UNIT BOUNDARY
SETTING BOUNDARIES
CLASS 1 STREAMS
CLASS 2 STREAMS
CLASS 3 STREAMS
LANDINGS (NUMBERED)



LAKES
TTRA BUFFER FOR STREAMS/LAKES
LAKE PROTECTION ZONE (TO 500')
NORTH IRISH TIMBER SALE UNITS
ELIGIBLE WILD AND SCENIC
RIVER AREAS

LOGGING METHOD CODES: S = SHOVEL
H = HELICOPTER C = CABLE
P = CABLE/PARTIAL SUSPENSION

ID TEAM UNIT OBJECTIVE SUMMARY

Prescribed By: Brad Seaberg 5/21/93
Silviculturist Date
Reviewed By: David Chapin 5/21/93
I.D. Team Leader Date
FLIGHT LINE: 23 PHOTO#: 688-170

CONTOUR INTERVAL 100 FEET
SCALE 1:7920 1 INCH = 660 FEET



DEVELOPMENT OF UNIT BOUNDARY

A Class III channel forms the northwest unit boundary. The southwest boundary follow noncommercial forest timber. The northeast boundary was dictated by a slope break and the lack of tailholds.

RESOURCE CONFLICTS AND MITIGATIONS

Soil/Water Quality/Fisheries

- Conflict: One Class III V-notch forms the northwest boundary of unit; Class III stream grades into Class II stream.
- Mitigation: Yard timber away from V-notch; unit boundary was located to exclude 100-foot no-cut buffer strip along Class II stream. Directional falling and removal of logging debris from stream channels.

Wildlife

- Conflict: Harvest would result in loss of marginal deer winter range habitat.
- Mitigation: This conflict is not mitigated since adequate habitat exists elsewhere.

Wetlands

- Conflict: Wetlands occur within and below unit.
- Mitigation: Avoid unnecessary disturbance to wetlands located beyond unit boundaries.

DESCRIPTION OF UNIT ATTRIBUTES/OBJECTIVES

Road Development: (Rounded to nearest 0.1 mile)

- 0.5 Miles of Specified Road within Unit.
- 0 Miles of spur road anticipated.
- 2 Landings

Timber Attributes:

- 798 MBF Estimated total volume within unit (net sawlog)
- 18 MBF Estimated volume per acre harvested within unit
- Acres by Volume Class within unit:
- 26 Volume Class 4 (8-20 MBF/acre)
- 19 Volume Class 5 (20-30 MBF/acre)
- Volume Class 6 (30-50 MBF/acre)
- Volume Class 7 (50+ MBF/acre)

Stand Management Objectives: Even Age

Rotation Period: 100 years

Regeneration Method: Natural

Anticipated Treatments: Precommercial Thinning

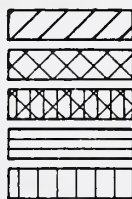
Other Timber Considerations: None

PROPOSED ACTION OR DEVELOPMENT

Unit is planned to be cable logged from two landings. Logs would be yarded away from Class III channel on northwest boundary.



FOREST DEVELOPMENT ROADS
 TEMPORARY ROADS
 UNIT BOUNDARY
 SETTING BOUNDARIES
 CLASS 1 STREAMS
 CLASS 2 STREAMS
 CLASS 3 STREAMS
 LANDINGS (NUMBERED)



LAKES
 TTRA BUFFER FOR STREAMS/LAKES
 LAKE PROTECTION ZONE (TO 500')
 NORTH IRISH TIMBER SALE UNITS
 ELIGIBLE WILD AND SCENIC
 RIVER AREAS

LOGGING METHOD CODES: S = SHOVEL
 H = HELICOPTER C = CABLE
 P = CABLE/PARTIAL SUSPENSION

ID TEAM UNIT OBJECTIVE SUMMARY

Prescribed By: Brad Seaberg 5/21/93
 Silviculturist Date
 Reviewed By: David Chapin 5/21/93
 I.D. Team Leader Date
 FLIGHT LINE: 23 PHOTO#: 688-170

CONTOUR INTERVAL 100 FEET
 SCALE 1:7920 1 INCH = 660 FEET



DEVELOPMENT OF UNIT BOUNDARY

As originally planned this unit covered 100 acres, and cross-stream yarding was proposed. During the IDT analysis, the northwest corner was deleted due to the proximity to an adjacent unit on the North Irish Timber Sale. Proposed cross-stream yarding was also deleted. Unit is now 88 acres in size.

RESOURCE CONFLICTS AND MITIGATIONS

Soil/Water Quality/Fisheries

- Conflict: A Class II stream is located adjacent to the unit.
Mitigation: Yard timber away from V-notch; unit boundary was located to provide 100-foot no-cut buffer strip along Class II stream; use partial-suspension during yarding on the slopes above the Class II stream.
Conflict: Yarding across Class III stream could cause adverse effects on downstream water quality.
Mitigation: Require partial suspension over Class III stream in southeast portion of unit. Avoid loading excessive debris in Class III stream channel.

Wildlife

- Conflict: Harvest unit is located in close proximity to adjacent North Irish harvest unit. This could affect deer migration.
Mitigation: Unit boundary is located to exclude northwest portion of unit and defer to future entry to partially mitigate this conflict.
Conflict: Fifty acres are located within a 6,000 acre goshawk foraging area. Goshawk foraging may be adversely affected.
Mitigation: The northwest portion of this unit was deferred; unit size was originally 100 acres. Since this is located at outside edge of foraging area, adverse effects should be minimal.

DESCRIPTION OF UNIT ATTRIBUTES/OBJECTIVES

Road Development: (Rounded to nearest 0.1 mile)
0.6 Miles of Specified Road within Unit.
0.2 Miles of spur road anticipated.
5 Landings

Timber Attributes:

1,460 MBF Estimated total volume within unit (net sawlog)
17 MBF Estimated volume per acre harvested within unit
Acres by Volume Class within unit:
59 Volume Class 4 (8-20 MBF/acre)
29 Volume Class 5 (20-30 MBF/acre)
Volume Class 6 (30-50 MBF/acre)
Volume Class 7 (50+ MBF/acre)

Stand Management Objectives: Even Age
Regeneration Method: Natural
Other Timber Considerations: None

Rotation Period: 100 years
Anticipated Treatments: Precommercial Thinning

PROPOSED ACTION OR DEVELOPMENT

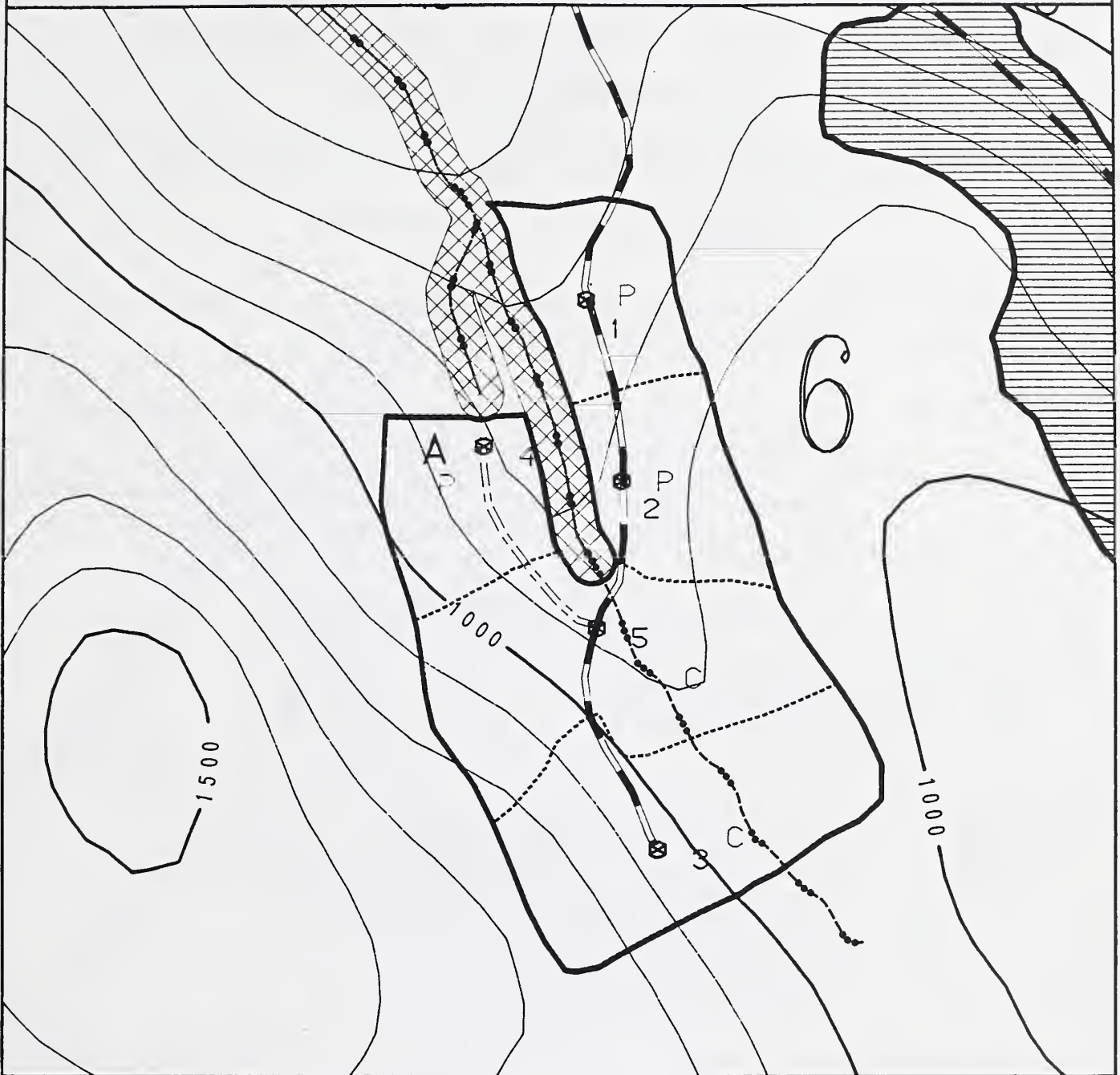
Unit is planned to be cable logged from five landings. Partial suspension would be necessary when yarding slopes above Class II stream in the north half of unit.

AREA: SHAMROCK

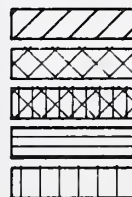
UNIT: 6

ACRES: 88

VCU: 429



FOREST DEVELOPMENT ROADS
TEMPORARY ROADS
UNIT BOUNDARY
SETTING BOUNDARIES
CLASS 1 STREAMS
CLASS 2 STREAMS
CLASS 3 STREAMS
LANDINGS (NUMBERED)



LAKES
TTRA BUFFER FOR STREAMS/LAKES
LAKE PROTECTION ZONE (TO 500')
NORTH IRISH TIMBER SALE UNITS
ELIGIBLE WILD AND SCENIC
RIVER AREAS

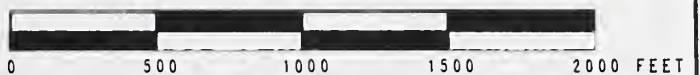
LOGGING METHOD CODES: S = SHOVEL
H = HELICOPTER C = CABLE
P = CABLE/PARTIAL SUSPENSION

ID TEAM UNIT OBJECTIVE SUMMARY

Prescribed By: Brad Seaberg 5/21/93
Silviculturist Date
Reviewed By: David Chapin 5/21/93
I.D. Team Leader Date

FLIGHT LINE: 22 PHOTO#: 688-120

CONTOUR INTERVAL 100 FEET
SCALE 1:7920 1 INCH = 660 FEET



DEVELOPMENT OF UNIT BOUNDARY

This unit is essentially the same unit that was originally planned. Considerations in unit layout included the location of a Class I stream near the north boundary and a Class 2 stream on the south boundary.

RESOURCE CONFLICTS AND MITIGATIONS

Soil/Water Quality/Fisheries

Conflict: One Class I stream and one Class II stream are located in close proximity to unit.
Mitigation: Unit boundary is located to provide a TTRA buffer strip.

Wildlife/Biodiversity

Conflict: Portions of units contain marginal deer winter range habitat. Harvesting could alter habitat and remove existing and potential snags.
Mitigation: Retain five green trees per acre in shovel ground west of temporary road to provide structural characteristics of old-growth stand and future snag supply for cavity nesting birds in regenerated stand. Retain 1.5 snags per acre in shovel ground west of temporary road.

DESCRIPTION OF UNIT ATTRIBUTES/OBJECTIVES

Road Development: (Rounded to nearest 0.1 mile)

0.0 Miles of Specified Road within Unit.
0.5 Miles of spur road anticipated.
3 Landings

Timber Attributes:

1,572 MBF Estimated total volume within unit (net sawlog)
17 MBF Estimated volume per acre harvested within unit
 Acres by Volume Class within unit:
41 Volume Class 4 (8-20 MBF/acre)
7 Volume Class 5 (20-30 MBF/acre)
 Volume Class 6 (30-50 MBF/acre)
 Volume Class 7 (50+ MBF/acre)

Stand Management Objectives: Even Age

Rotation Period: 100 years

Regeneration Method: Natural

Anticipated Treatments: Precommercial Thinning

Other Timber Considerations: None

PROPOSED ACTION OR DEVELOPMENT

Unit is planned to be logged in six settings, three cable settings and three shovel settings.

AREA: SHAMROCK

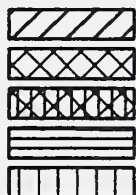
UNIT: 7

ACRES: 48

VCU: 429



FOREST DEVELOPMENT ROADS
TEMPORARY ROADS
UNIT BOUNDARY
SETTING BOUNDARIES
CLASS 1 STREAMS
CLASS 2 STREAMS
CLASS 3 STREAMS
LANDINGS (NUMBERED)



LAKES
TTRA BUFFER FOR STREAMS/LAKES
LAKE PROTECTION ZONE (TO 500')
NORTH IRISH TIMBER SALE UNITS
ELIGIBLE WILD AND SCENIC
RIVER AREAS

LOGGING METHOD CODES: S = SHOVEL
H = HELICOPTER C = CABLE
P = CABLE/PARTIAL SUSPENSION

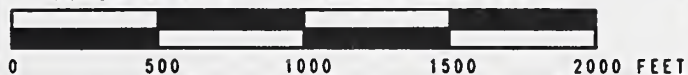
ID TEAM UNIT OBJECTIVE SUMMARY

Prescribed By: Brad Seaberg 5/09/95
Silviculturist Date

Reviewed By: David Chapin 5/09/95
I.D. Team Leader Date

FLIGHT LINE: 23 PHOTO#: 688-175

CONTOUR INTERVAL 100 FEET
SCALE 1:7920 1 INCH = 660 FEET



Shamrock Timber Sale Unit Number: 8 Acres: 28 VCU: 438 ALT: 2, 3, 4, 5

DEVELOPMENT OF UNIT BOUNDARY

This unit is essentially the same unit originally planned. The unit is located in low-site ground in a saddle. The presence of non-commercial forest land dictated unit boundaries.

RESOURCE CONFLICTS AND MITIGATIONS

None Identified

DESCRIPTION OF UNIT ATTRIBUTES/OBJECTIVES

Road Development: (Rounded to nearest 0.1 mile)

0.3 Miles of Specified Road within Unit.
0.0 Miles of spur road anticipated.
2 Landings

Timber Attributes:

350 MBF Estimated total volume within unit (net sawlog)
12 MBF Estimated volume per acre harvested within unit
Acres by Volume Class within unit:
28 Volume Class 4 (8-20 MBF/acre)
0 Volume Class 5 (20-30 MBF/acre)
Volume Class 6 (30-50 MBF/acre)
Volume Class 7 (50+ MBF/acre)

Stand Management Objectives: Even Age

Rotation Period: 100 years

Regeneration Method: Natural

Anticipated Treatments: Precommercial Thinning

Other Timber Considerations: None

PROPOSED ACTION OR DEVELOPMENT

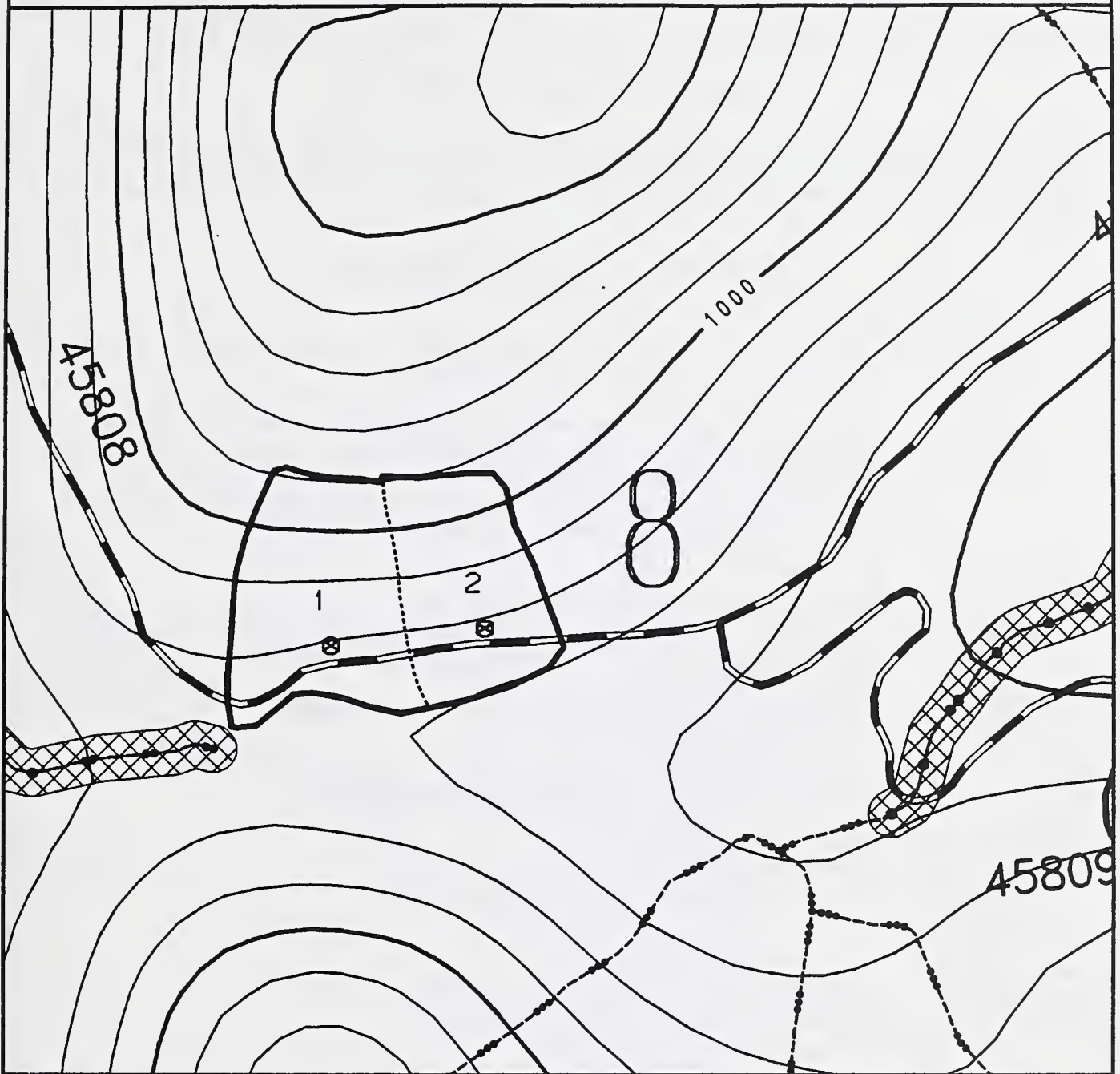
Unit is planned to be cable logged in two settings. No suspension requirements would be necessary.

AREA: SHAMROCK

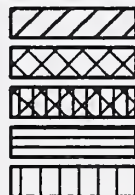
UNIT: 8

ACRES: 28

VCU: 429/438



FOREST DEVELOPMENT ROADS
 TEMPORARY ROADS
 UNIT BOUNDARY
 SETTING BOUNDARIES
 CLASS 1 STREAMS
 CLASS 2 STREAMS
 CLASS 3 STREAMS
 LANDINGS (NUMBERED)



LAKES
 TTRA BUFFER FOR STREAMS/LAKES
 LAKE PROTECTION ZONE (TO 500')
 NORTH IRISH TIMBER SALE UNITS
 ELIGIBLE WILD AND SCENIC
 RIVER AREAS

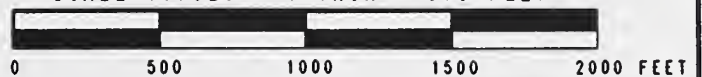
LOGGING METHOD CODES: S = SHOVEL
 H = HELICOPTER C = CABLE
 P = CABLE/PARTIAL SUSPENSION

ID TEAM UNIT OBJECTIVE SUMMARY

Prescribed By: Brad Seaberg 5/09/95
 Silviculturist Date
 Reviewed By: David Chapin 5/09/95
 I.D. Team Leader Date

FLIGHT LINE: 23 PHOTO#: 688-173

CONTOUR INTERVAL 100 FEET
 SCALE 1:7920 1 INCH = 660 FEET



DEVELOPMENT OF UNIT BOUNDARY

During the environmental analysis adjustments were made to the unit boundary to provide Class II TTRA buffers in the southeast part of the unit. Considerations in unit layout included the location of a Class III stream grading into a Class I stream on the west unit boundary and Class II streams on the southeast boundary.

RESOURCE CONFLICTS AND MITIGATIONS

Soil/Water Quality/Fisheries

Conflict: Class II streams are located in close proximity to the southeast portion of the unit.

Mitigation: Unit boundary is located to provide TTRA buffer strips.

Conflict: Class III V-notches are located within unit, and Class III stream is east boundary.

Mitigation: Split-yard from Class III V-notches within unit. Use partial suspension when yarding slopes above Road 45808. Require Purchaser to use direction falling and remove logging debris from stream channel. Purchaser shall directionally fall trees on east end of unit and yard away from Class III stream.

Wildlife

Conflict: Harvest unit is located in a deer migration area.

Mitigation: This conflict is partially mitigated by maintaining an approximate 500 foot no-cut area between this unit and Unit 13 to provide a migration corridor up and down the slope.

Conflict: Portions of units contain marginal deer winter range habitat.

Mitigation: This conflict is not mitigated.

DESCRIPTION OF UNIT ATTRIBUTES/OBJECTIVES

Road Development: (Rounded to nearest 0.1 mile)

0.4 Miles of Specified Road within Unit.

0.0 Miles of spur road anticipated.

5 Landings

Timber Attributes:

1,581 MBF Estimated total volume within unit (net sawlog)

27 MBF Estimated volume per acre harvested within unit

Acres by Volume Class within unit:

15 Volume Class 4 (8-20 MBF/acre)

27 **Volume Class 5 (20-30 MBF/acre)**

17 Volume Class 6 (30-50 MBF/acre)

Volume Class 7 (50+ MBF/acre)

Stand Management Objectives: Even AgeRotation Period: 100 yearsRegeneration Method: Natural

Anticipated Treatments: Precommercial Thinning

Other Timber Considerations: Monitor to ensure adequate regeneration of Alaska-cedar.

PROPOSED ACTION OR DEVELOPMENT

Unit is planned to be cable logged from five landings. Partial suspension would be required on the slopes above Road 45808 to minimize surface disturbance. Landings would be located between V-Notches with logs being split-yarded from V-notches.

AREA: SHAMROCK

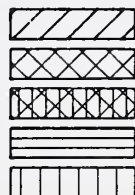
UNIT: 10

ACRES: 59

VCU: 438



FOREST DEVELOPMENT ROADS
TEMPORARY ROADS
UNIT BOUNDARY
SETTING BOUNDARIES
CLASS 1 STREAMS
CLASS 2 STREAMS
CLASS 3 STREAMS
LANDINGS (NUMBERED)



LAKES
TTRA BUFFER FOR STREAMS/LAKES
LAKE PROTECTION ZONE (TO 500')
NORTH IRISH TIMBER SALE UNITS
ELIGIBLE WILD AND SCENIC
RIVER AREAS

LOGGING METHOD CODES: S = SHOVEL
H = HELICOPTER C = CABLE
P = CABLE/PARTIAL SUSPENSION

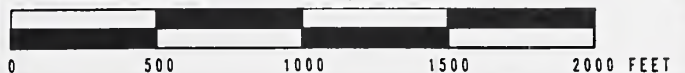
ID TEAM UNIT OBJECTIVE SUMMARY

Prescribed By: Brad Seaberg 5/21/93
Silviculturist Date

Reviewed By: David Chapin 5/21/93
I.D. Team Leader Date

FLIGHT LINE: 24 PHOTO#: 688-214

CONTOUR INTERVAL 100 FEET
SCALE 1:7920 1 INCH = 660 FEET



Shamrock Timber Sale Unit Number: 11 Acres: 32 VCU: 438 ALT: 2, 3, 4

DEVELOPMENT OF UNIT BOUNDARY

During the environmental analysis adjustments were made to the upper unit boundary due to lack of adequate tailholds for skyline yarding. The north boundary was dictated by a muskeg and a Class I stream.

RESOURCE CONFLICTS AND MITIGATIONS

Soil/Water Quality/Fisheries

Conflict: Class I stream is located near north boundary of unit.

Mitigation: Unit boundary is located to provide a 100 foot no-cut buffer strip along Class I stream.

Conflict: Class III stream located between settings 1 and 2.

Mitigation: Split-yard Class III stream. Require directional falling and removal of logging debris from stream.

DESCRIPTION OF UNIT ATTRIBUTES/OBJECTIVES

Road Development: (Rounded to nearest 0.1 mile)

0.3 Miles of Specified Road within Unit.

0.0 Miles of spur road anticipated.

4 Landings

Timber Attributes:

450 MBF Estimated total volume within unit (net sawlog)

14 MBF Estimated volume per acre harvested within unit

Acres by Volume Class within unit:

28 Volume Class 4 (8-20 MBF/acre)

4 Volume Class 5 (20-30 MBF/acre)

0 Volume Class 6 (30-50 MBF/acre)

Volume Class 7 (50+ MBF/acre)

Stand Management Objectives: Even Age

Rotation Period: 100 years

Regeneration Method: Natural

Anticipated Treatments: Precommercial Thinning

Other Timber Considerations: None

PROPOSED ACTION OR DEVELOPMENT

Unit is planned to be cable logged four landings. Landing 1 is located on a flat between the unit boundary and a Class III stream. Split-yard Class III stream between Landings 1 and 2.

AREA: SHAMROCK

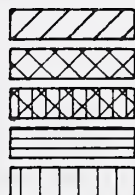
UNIT: 11

ACRES: 32

VCU: 438



FOREST DEVELOPMENT ROADS
TEMPORARY ROADS
UNIT BOUNDARY
SETTING BOUNDARIES
CLASS 1 STREAMS
CLASS 2 STREAMS
CLASS 3 STREAMS
LANDINGS (NUMBERED)



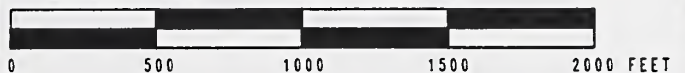
LAKES
TTRA BUFFER FOR STREAMS/LAKES
LAKE PROTECTION ZONE (TO 500')
NORTH IRISH TIMBER SALE UNITS
ELIGIBLE WILD AND SCENIC
RIVER AREAS

LOGGING METHOD CODES: S = SHOVEL
H = HELICOPTER C = CABLE
P = CABLE/PARTIAL SUSPENSION

ID TEAM UNIT OBJECTIVE SUMMARY

Prescribed By: Brad Seaberg 5/21/93
Silviculturist Date
Reviewed By: David Chapin 5/21/93
I.D. Team Leader Date
FLIGHT LINE: 24 PHOTO#: 688-215

CONTOUR INTERVAL 100 FEET
SCALE 1:7920 1 INCH = 660 FEET



DEVELOPMENT OF UNIT BOUNDARY

The upper (north) boundary was dictated by the slope configuration and the amount of adequate tailholds to allow for partial suspension. The west boundary is a V-notch. The south boundary was dictated by non-commercial forest land and a Class I stream. Unit size exceeds 100 acres to avoid isolating timber on upper slopes.

RESOURCE CONFLICTS AND MITIGATIONS

Soil/Water Quality/Fisheries

Conflict: Class I stream is located near south boundary of unit.

Mitigation: Unit boundary is located to provide a 100 foot no-cut buffer strip along Class I stream.

Conflict: Class III stream located between settings 2 and 3.

Mitigation: Split-yard Class III streams. Require directional falling and removal of logging debris from stream channel.

Conflict: Upper slopes are steep, indicating erosion and mass movement potential.

Mitigation: Use partial suspension on upper slopes to minimize soil disturbance.

DESCRIPTION OF UNIT ATTRIBUTES/OBJECTIVES

Road Development: (Rounded to nearest 0.1 mile)

0.5 Miles of Specified Road within Unit.

0.0 Miles of spur road anticipated.

5 Landings

Timber Attributes:

2,279 MBF Estimated total volume within unit (net sawlog)

22 MBF Estimated volume per acre harvested within unit

Acres by Volume Class within unit:

21 Volume Class 4 (8-20 MBF/acre)

81 Volume Class 5 (20-30 MBF/acre)

Volume Class 6 (30-50 MBF/acre)

Volume Class 7 (50+ MBF/acre)

Stand Management Objectives: Even Age

Rotation Period: 100 years

Regeneration Method: Natural

Anticipated Treatments: Precommercial Thinning

Other Timber Considerations: Monitor to determine adequate regeneration of Alaska-cedar.

PROPOSED ACTION OR DEVELOPMENT

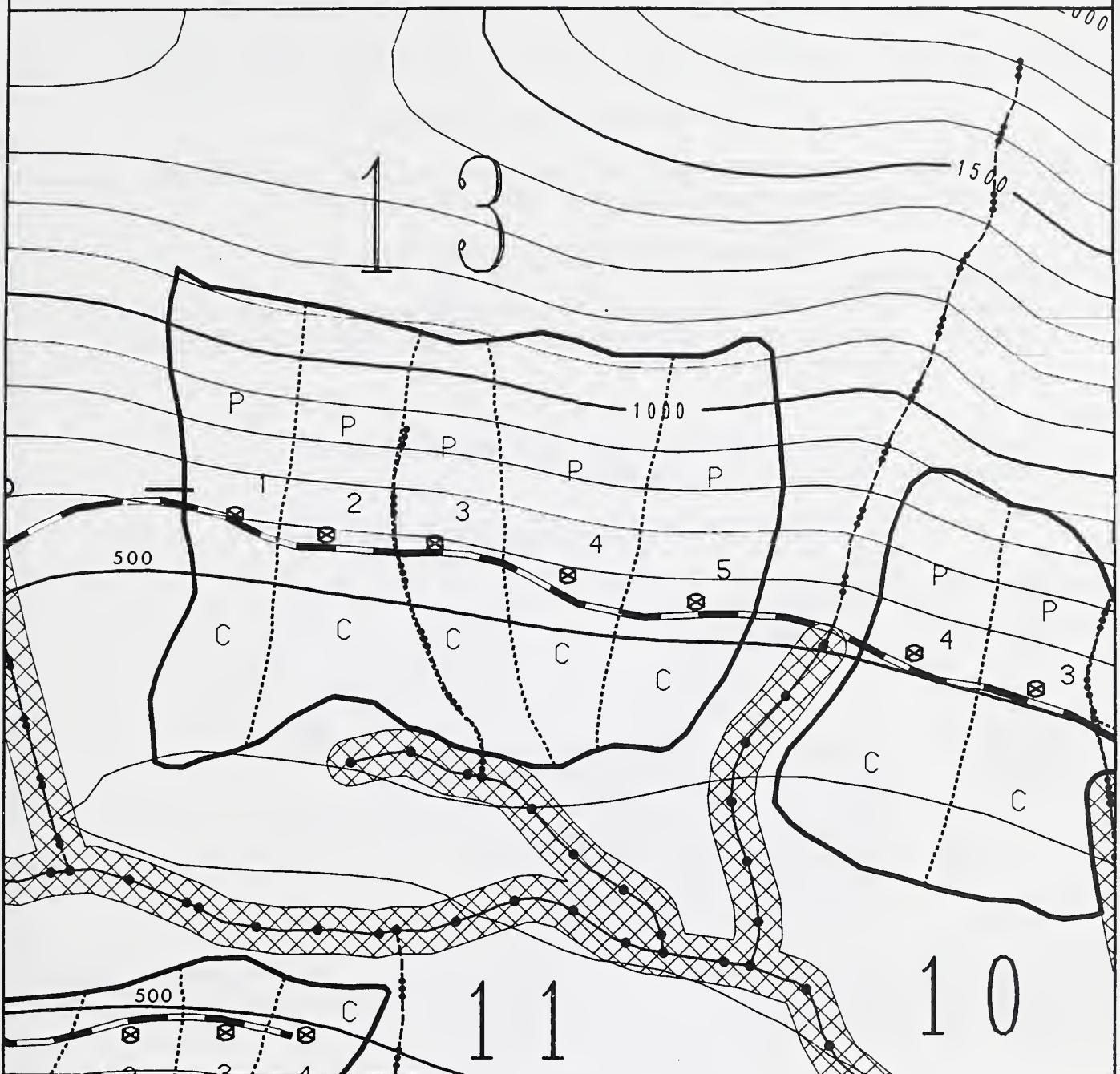
Unit is planned to be cable logged to five landings. Partial suspension would be necessary for slopes above Road 45808 to minimize surface disturbance. Landings are planned to be located between Class III streams and V-notches.

AREA: SHAMROCK

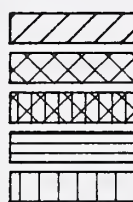
UNIT: 13

ACRES: 102

VCU: 438



FOREST DEVELOPMENT ROADS
TEMPORARY ROADS
UNIT BOUNDARY
SETTING BOUNDARIES
CLASS 1 STREAMS
CLASS 2 STREAMS
CLASS 3 STREAMS
LANDINGS (NUMBERED)



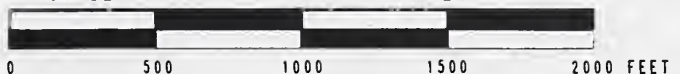
LAKES
TTRA BUFFER FOR STREAMS/LAKES
LAKE PROTECTION ZONE (TO 500')
NORTH IRISH TIMBER SALE UNITS
ELIGIBLE WILD AND SCENIC
RIVER AREAS

LOGGING METHOD CODES: S = SHOVEL
H = HELICOPTER C = CABLE
P = CABLE/PARTIAL SUSPENSION

ID TEAM UNIT OBJECTIVE SUMMARY

Prescribed By: Brad Seaberg 5/21/93
Silviculturist Date
Reviewed By: David Chapin 5/21/93
I.D. Team Leader Date
FLIGHT LINE: 24 PHOTO#: 688-214

CONTOUR INTERVAL 100 FEET
SCALE 1:7920 1 INCH = 660 FEET



DEVELOPMENT OF UNIT BOUNDARY

The upper (northwest) boundary was dictated by non-commercial forestland and slope configuration. The east boundary follows non-commercial forest, muskeg and a Class I TTRA stream buffer.

RESOURCE CONFLICTS AND MITIGATIONS

Soil/Water Quality/Fisheries

Conflict: Class I stream is located near east boundary of unit, and V-notch is present in unit.
Mitigation: Unit boundary is located to provide a 100 foot no-cut buffer strip along Class I stream. Split-yard V-notch.

Wildlife

Conflict: Portions of unit contain marginal deer winter range habitat.
Mitigation: This conflict is not mitigated.

DESCRIPTION OF UNIT ATTRIBUTES/OBJECTIVES

Road Development: (Rounded to nearest 0.1 mile)

0.0 Miles of Specified Road within Unit.
0.5 Miles of spur road anticipated.
4 Landings

Timber Attributes:

1,572 MBF Estimated total volume within unit (net sawlog)
17 MBF Estimated volume per acre harvested within unit
 Acres by Volume Class within unit:
56 Volume Class 4 (8-20 MBF/acre)
35 Volume Class 5 (20-30 MBF/acre)
0 Volume Class 6 (30-50 MBF/acre)
 Volume Class 7 (50+ MBF/acre)

Stand Management Objectives: Even Age

Rotation Period: 100 years

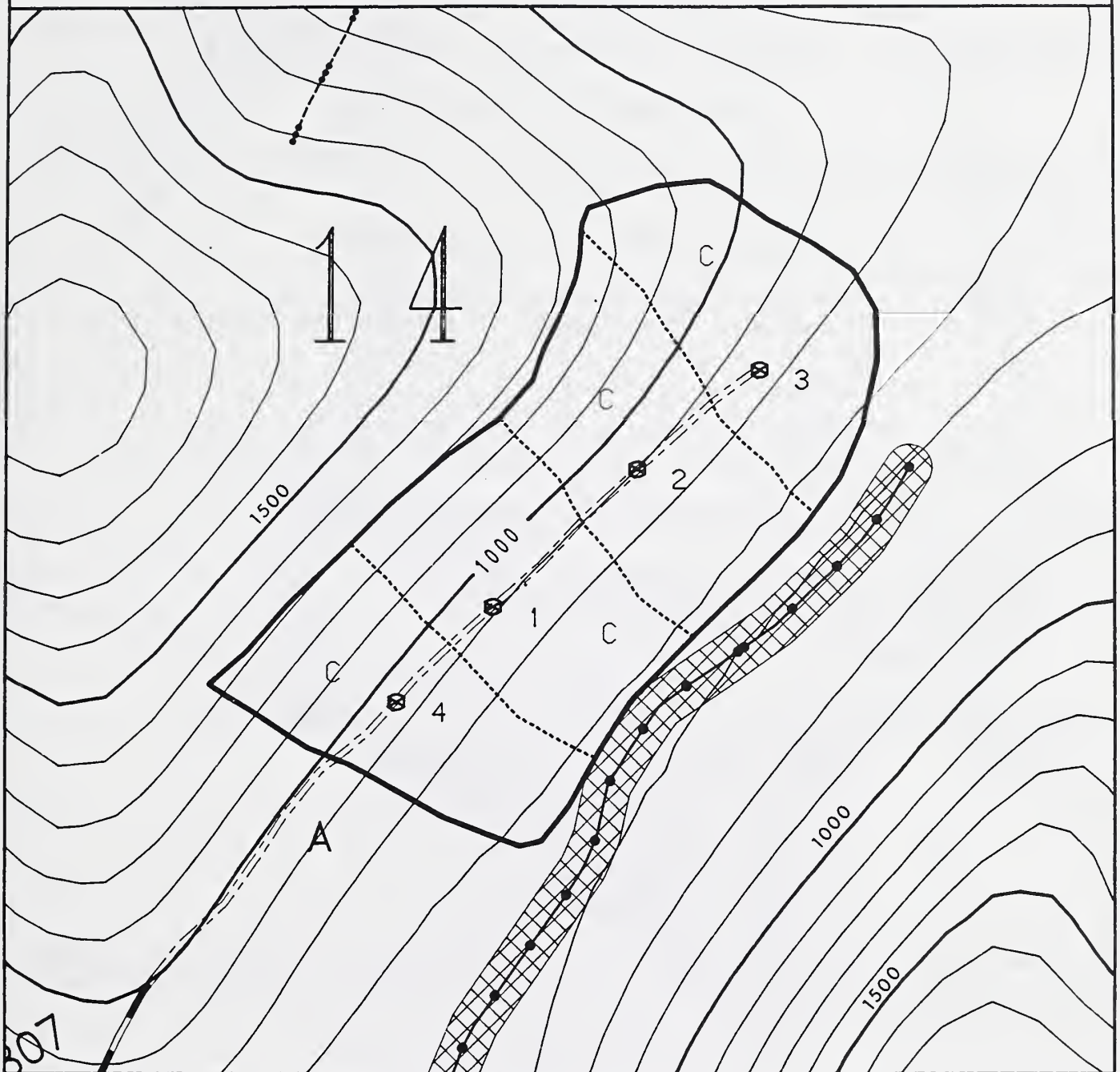
Regeneration Method: Natural

Anticipated Treatments: Precommercial Thinning

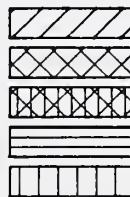
Other Timber Considerations: None

PROPOSED ACTION OR DEVELOPMENT

Unit is planned to be cable logged to four landings.



FOREST DEVELOPMENT ROADS
TEMPORARY ROADS
UNIT BOUNDARY
SETTING BOUNDARIES
CLASS 1 STREAMS
CLASS 2 STREAMS
CLASS 3 STREAMS
LANDINGS (NUMBERED)



LAKES
TTRA BUFFER FOR STREAMS/LAKES
LAKE PROTECTION ZONE (TO 500')
NORTH IRISH TIMBER SALE UNITS
ELIGIBLE WILD AND SCENIC
RIVER AREAS

LOGGING METHOD CODES: S = SHOVEL
H = HELICOPTER C = CABLE
P = CABLE/PARTIAL SUSPENSION

CONTOUR INTERVAL 100 FEET
SCALE 1:7920 1 INCH = 660 FEET



ID TEAM UNIT OBJECTIVE SUMMARY

Prescribed By: Brad Seaberg 5/21/93
Silviculturist Date
Reviewed By: David Chapin 5/21/93
I.D. Team Leader Date
FLIGHT LINE: 23 PHOTO#: 688-175

Shamrock Timber Sale Unit Number: 15 Acres: 57 VCU: 436 ALT: 2, 5

DEVELOPMENT OF UNIT BOUNDARY

The east and west boundaries were dictated by Classes I and II streams. The upper boundary was dictated by a slope break.

RESOURCE CONFLICTS AND MITIGATIONS

Soil/Water Quality/Fisheries

Conflict: Classes I and II streams are located in close proximity to unit.

Mitigation: Unit boundary is located to provide a 100 foot no-cut buffer strip along Class II streams.

Visual

Conflict: Upper portion of unit can be seen from Castle Creek River.

Mitigation: Green trees will be retained at a target rate of 10-15 trees per acre.

DESCRIPTION OF UNIT ATTRIBUTES/OBJECTIVES

Road Development: (Rounded to nearest 0.1 mile)

0.6 Miles of Specified Road within Unit.

0.1 Miles of spur road anticipated.

5 Landings

Timber Attributes:

1,333 MBF Estimated total volume within unit (net sawlog)

23 MBF Estimated volume per acre harvested within unit

Acres by Volume Class within unit:

7 Volume Class 4 (8-20 MBF/acre)

50 Volume Class 5 (20-30 MBF/acre)

Volume Class 6 (30-50 MBF/acre)

Volume Class 7 (50+ MBF/acre)

Stand Management Objectives: Even Age

Rotation Period: 100 years

Regeneration Method: Natural

Anticipated Treatments: Precommercial Thinning

Other Timber Considerations: None

PROPOSED ACTION OR DEVELOPMENT

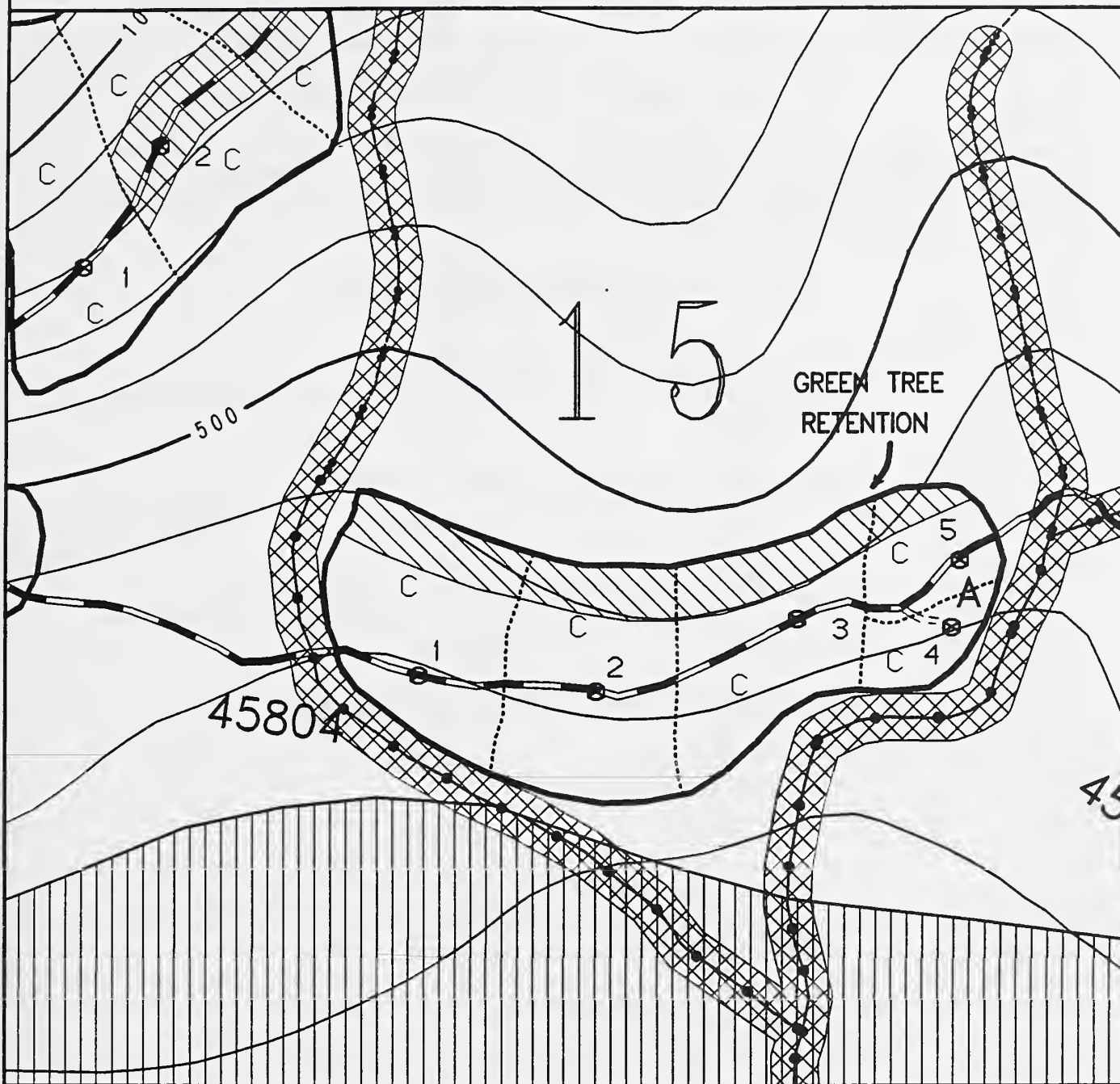
Unit is planned to be cable logged to five landings. A spur road will need to be constructed to access Landing 4 in the southwest corner of unit.

AREA: SHAMROCK

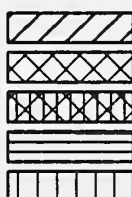
UNIT: 15

ACRES: 436

VCU: 57



FOREST DEVELOPMENT ROADS
TEMPORARY ROADS
UNIT BOUNDARY
SETTING BOUNDARIES
CLASS 1 STREAMS
CLASS 2 STREAMS
CLASS 3 STREAMS
LANDINGS (NUMBERED)



LAKES
TTRA BUFFER FOR STREAMS/LAKES
LAKE PROTECTION ZONE (TO 500')
NORTH IRISH TIMBER SALE UNITS
ELIGIBLE WILD AND SCENIC RIVER AREAS

LOGGING METHOD CODES: S = SHOVEL
H = HELICOPTER C = CABLE
P = CABLE/PARTIAL SUSPENSION

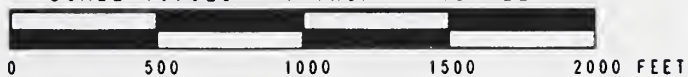
ID TEAM UNIT OBJECTIVE SUMMARY

Prescribed By: Brad Seaberg 6/23/95
Silviculturist Date

Reviewed By: David Chapin 6/23/95
I.D. Team Leader Date

FLIGHT LINE: 25 PHOTO#: 788-18

CONTOUR INTERVAL 100 FEET
SCALE 1:7920 1 INCH = 660 FEET



DEVELOPMENT OF UNIT BOUNDARY

The presence of Class I streams determined the east and north boundary of the unit. The south boundary was dictated by the TTRA buffer strip along the Castle River. The west boundary is located along non-commercial forest. The south portion of this unit is located within 0.25 miles of Castle River, an eligible "Wild" river. This unit is in Alternative 2 only.

RESOURCE CONFLICTS AND MITIGATIONS

Soil/Water Quality/Fisheries

Conflict: Class I streams are located in close proximity to unit.

Mitigation: Unit boundary is located to provide a 100 foot no-cut buffer strip along Class I and Class II streams.

Conflict: V-notch remnant is located in southeast portion of unit.

Mitigation: Split yard between Landings 4 and 8.

Wildlife/Biodiversity

Conflict: Harvesting would remove potential habitat for cavity nesting birds.

Mitigation: Retain snags at a rate of 1.5 snags per acre in shovel-logged ground to provide potential nesting habitat for cavity nesting birds.

DESCRIPTION OF UNIT ATTRIBUTES/OBJECTIVES

Road Development: (Rounded to nearest 0.1 mile)

0.5 Miles of Specified Road within Unit.

0.2 Miles of spur road anticipated.

9 Landings

Timber Attributes:

997 MBF Estimated total volume within unit (net sawlog)

21 MBF Estimated volume per acre harvested within unit

Acres by Volume Class within unit:

16 Volume Class 4 (8-20 MBF/acre)

32 Volume Class 5 (20-30 MBF/acre)

Volume Class 6 (30-50 MBF/acre)

Volume Class 7 (50+ MBF/acre)

Stand Management Objectives: Even Age

Rotation Period: 100 years

Regeneration Method: Natural

Anticipated Treatments: Precommercial Thinning

Other Timber Considerations: None

PROPOSED ACTION OR DEVELOPMENT

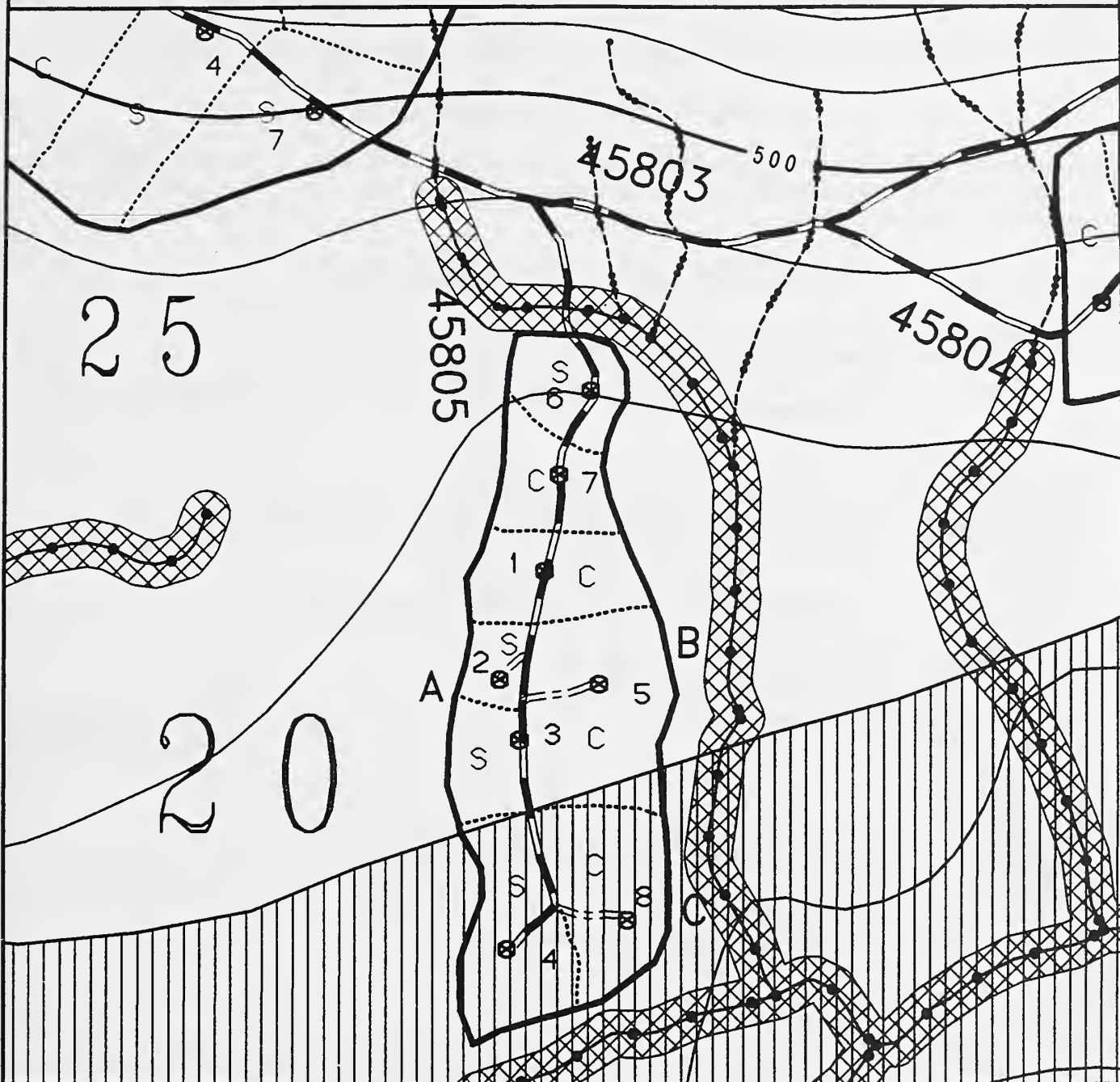
Unit is planned to be cable and shovel logged to 9 landings. Gentle slopes predominate in this unit. Retain snags at a rate of 1.5 snags per acre in shovel-logged area.

AREA: SHAMROCK

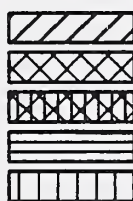
UNIT: 20

ACRES: 48

VCU: 436



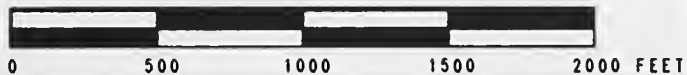
FOREST DEVELOPMENT ROADS
 TEMPORARY ROADS
 UNIT BOUNDARY
 SETTING BOUNDARIES
 CLASS 1 STREAMS
 CLASS 2 STREAMS
 CLASS 3 STREAMS
 LANDINGS (NUMBERED)



LAKES
 TTRA BUFFER FOR STREAMS/LAKES
 LAKE PROTECTION ZONE (TO 500')
 NORTH IRISH TIMBER SALE UNITS
 ELIGIBLE WILD AND SCENIC
 RIVER AREAS

LOGGING METHOD CODES: S = SHOVEL
 H = HELICOPTER C = CABLE
 P = CABLE/PARTIAL SUSPENSION

CONTOUR INTERVAL 100 FEET
 SCALE 1:7920 1 INCH = 660 FEET



ID TEAM UNIT OBJECTIVE SUMMARY

Prescribed By: Brad Seaberg 5/09/95
 Silviculturist Date

Reviewed By: David Chapin 5/09/95
 I.D. Team Leader Date

FLIGHT LINE: 24 PHOTO#: 688-221

Shamrock Timber Sale Unit Number: 20-M Acres: 27 VCU: 436 ALT: 3, 4, 5

DEVELOPMENT OF UNIT BOUNDARY

The presence of a Class I stream determined the east and north boundary of the unit. This unit differs from Unit 20 by excluding area within 0.25 mile of Castle River, an eligible "Wild" river. This unit is included in Alternatives 3, 4 and 5.

RESOURCE CONFLICTS AND MITIGATIONS

Soil/Water Quality/Fisheries

Conflict: Class I stream is located in close proximity to unit.
Mitigation: Unit boundary is located to provide a 100 foot no-cut buffer strip along Class I and Class II streams.

Wildlife/Biodiversity

Conflict: Harvesting will remove potential habitat for cavity nesting birds.
Mitigation: Retain snags at a rate of 1.5 snags per acre in shovel-logged ground to provide potential nesting habitat for cavity nesting birds.

DESCRIPTION OF UNIT ATTRIBUTES/OBJECTIVES

Road Development: (Rounded to nearest 0.1 mile)

0.3 Miles of Specified Road within Unit.
0.1 Miles of spur road anticipated.
6 Landings

Timber Attributes:

610 MBF Estimated total volume within unit (net sawlog)
23 MBF Estimated volume per acre harvested within unit
 Acres by Volume Class within unit:
 5 Volume Class 4 (8-20 MBF/acre)
 22 Volume Class 5 (20-30 MBF/acre)
 Volume Class 6 (30-50 MBF/acre)
 Volume Class 7 (50+ MBF/acre)

Stand Management Objectives: Even Age

Rotation Period: 100 years

Regeneration Method: Natural

Anticipated Treatments: Precommercial Thinning

Other Timber Considerations: None

PROPOSED ACTION OR DEVELOPMENT

Unit is planned to be cable and shovel logged to 6 landings. Gentle slopes predominate in this unit. Retain snags at a rate of 1.5 snags per acre in shovel-logged area.

AREA: SHAMROCK

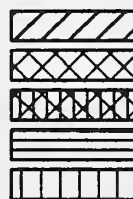
UNIT: 20-M

ACRES: 27

VCU: 436



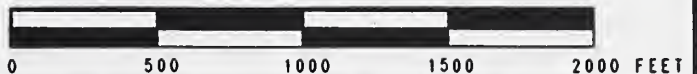
FOREST DEVELOPMENT ROADS
 TEMPORARY ROADS
 UNIT BOUNDARY
 SETTING BOUNDARIES
 CLASS 1 STREAMS
 CLASS 2 STREAMS
 CLASS 3 STREAMS
 LANDINGS (NUMBERED)



LAKES
 TTRA BUFFER FOR STREAMS/LAKES
 LAKE PROTECTION ZONE (TO 500')
 NORTH IRISH TIMBER SALE UNITS
 ELIGIBLE WILD AND SCENIC
 RIVER AREAS

LOGGING METHOD CODES: S = SHOVEL
 H = HELICOPTER C = CABLE
 P = CABLE/PARTIAL SUSPENSION

CONTOUR INTERVAL 100 FEET
 SCALE 1:7920 1 INCH = 660 FEET



ID TEAM UNIT OBJECTIVE SUMMARY

Prescribed By: Brad Seaberg 5/09/95
 Silviculturist Date
 Reviewed By: David Chapin 5/09/95
 I.D. Team Leader Date
 FLIGHT LINE: 24 PHOTO#: 688-221

DEVELOPMENT OF UNIT BOUNDARY

This unit remains relatively unchanged from initial planning. A Class III V-notch determined the west boundary. Non-commercial forest land and muskeg determined the north boundary.

RESOURCE CONFLICTS AND MITIGATIONS

Soil/Water Quality/Fisheries

Conflict: Steep slopes along backline are susceptible to erosion when disturbed.

Mitigation: Use partial suspension on steep slopes above Road 45803.

Wetlands:

Conflict: Unit surrounded by wetlands.

Mitigation: Avoid unnecessary disturbance to wetlands located outside unit boundaries.

Visuals:

Conflict: Unit is visible from Duncan Canal, in background distance.

Mitigation: Retention factors apply; extended 120 year rotation applies. Modification VQO is met.

DESCRIPTION OF UNIT ATTRIBUTES/OBJECTIVES

Road Development: (Rounded to nearest 0.1 mile)

0.4 Miles of Specified Road within Unit.

0.0 Miles of spur road anticipated.

5 Landings

Timber Attributes:

957 MBF Estimated total volume within unit (net sawlog)

17 MBF Estimated volume per acre harvested within unit

Acres by Volume Class within unit:

46 Volume Class 4 (8-20 MBF/acre)

0 Volume Class 5 (20-30 MBF/acre)

9 Volume Class 6 (30-50 MBF/acre)

Volume Class 7 (50+ MBF/acre)

Stand Management Objectives: Even Age

Rotation Period: 120 years

Regeneration Method: Natural

Anticipated Treatments: Precommercial Thinning

Other Timber Considerations: None

PROPOSED ACTION OR DEVELOPMENT

Unit is planned to be cable logged to five landings. Partial suspension would be required for the steep slopes above Road 45803.

AREA: SHAMROCK

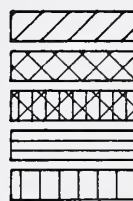
UNIT: 22

ACRES: 55

VCU: 438



FOREST DEVELOPMENT ROADS
TEMPORARY ROADS
UNIT BOUNDARY
SETTING BOUNDARIES
CLASS 1 STREAMS
CLASS 2 STREAMS
CLASS 3 STREAMS
LANDINGS (NUMBERED)



LAKES
TTRA BUFFER FOR STREAMS/LAKES
LAKE PROTECTION ZONE (TO 500')
NORTH IRISH TIMBER SALE UNITS
ELIGIBLE WILD AND SCENIC
RIVER AREAS

LOGGING METHOD CODES: S = SHOVEL
H = HELICOPTER C = CABLE
P = CABLE/PARTIAL SUSPENSION

ID TEAM UNIT OBJECTIVE SUMMARY

Prescribed By: Brad Seaberg 5/21/93
Silviculturist Date
Reviewed By: David Chapin 5/21/93
I.D. Team Leader Date
FLIGHT LINE: 25 PHOTO#: 788-20

CONTOUR INTERVAL 100 FEET
SCALE 1:7920 1 INCH = 660 FEET



DEVELOPMENT OF UNIT BOUNDARY

The shape and size of this unit was determined to a large extent by the feasible location of a specified road (Road 45803). Road 45803 and landings used to harvest timber in this unit are located on benches on the hillside. The unit boundary was determined by what harvestable timber could be yarded to these landings. The upper boundary (west/northwest) follows a slope break and non-commercial forest land. A significant V-notch on the east side of the unit dictated the location of the east boundary.

RESOURCE CONFLICTS AND MITIGATIONS

Soil/Water Quality/Fisheries

Conflict: High gradient V-notch is located adjacent to east unit boundary.
Mitigation: Locate east unit boundary 100 feet from stream channel.

Wildlife

Conflict: Harvest unit is located in a wildlife migration corridor.
Mitigation: This conflict is partially mitigated by maintaining an approximate 1,600 foot no harvest area between this unit and Unit 61; 1,100 foot no harvest area between this unit and Unit 15; and 400 foot no harvest area between this unit and Unit 82.

Conflict: Portions of units contain marginal deer winter range habitat.
Mitigation: This conflict is not mitigated.

Visual

Conflict: Upper portion of unit can be seen from Castle River.
Mitigation: Green trees will be retained at a target rate of 10-15 trees per acre.

DESCRIPTION OF UNIT ATTRIBUTES/OBJECTIVES

Road Development: (Rounded to nearest 0.1 mile)

0.9 Miles of Specified Road within Unit.
0.0 Miles of spur road anticipated.
6 Landings

Timber Attributes:

2,678 MBF Estimated total volume within unit (net sawlog)
33 MBF Estimated volume per acre harvested within unit
 Acres by Volume Class within unit:
 13 Volume Class 4 (8-20 MBF/acre)
 21 Volume Class 5 (20-30 MBF/acre)
 47 Volume Class 6 (30-50 MBF/acre)
 Volume Class 7 (50+ MBF/acre)

Stand Management Objectives: Even Age

Rotation Period: 100 years

Regeneration Method: Natural

Anticipated Treatments: Precommercial Thinning

Other Timber Considerations: None

PROPOSED ACTION OR DEVELOPMENT

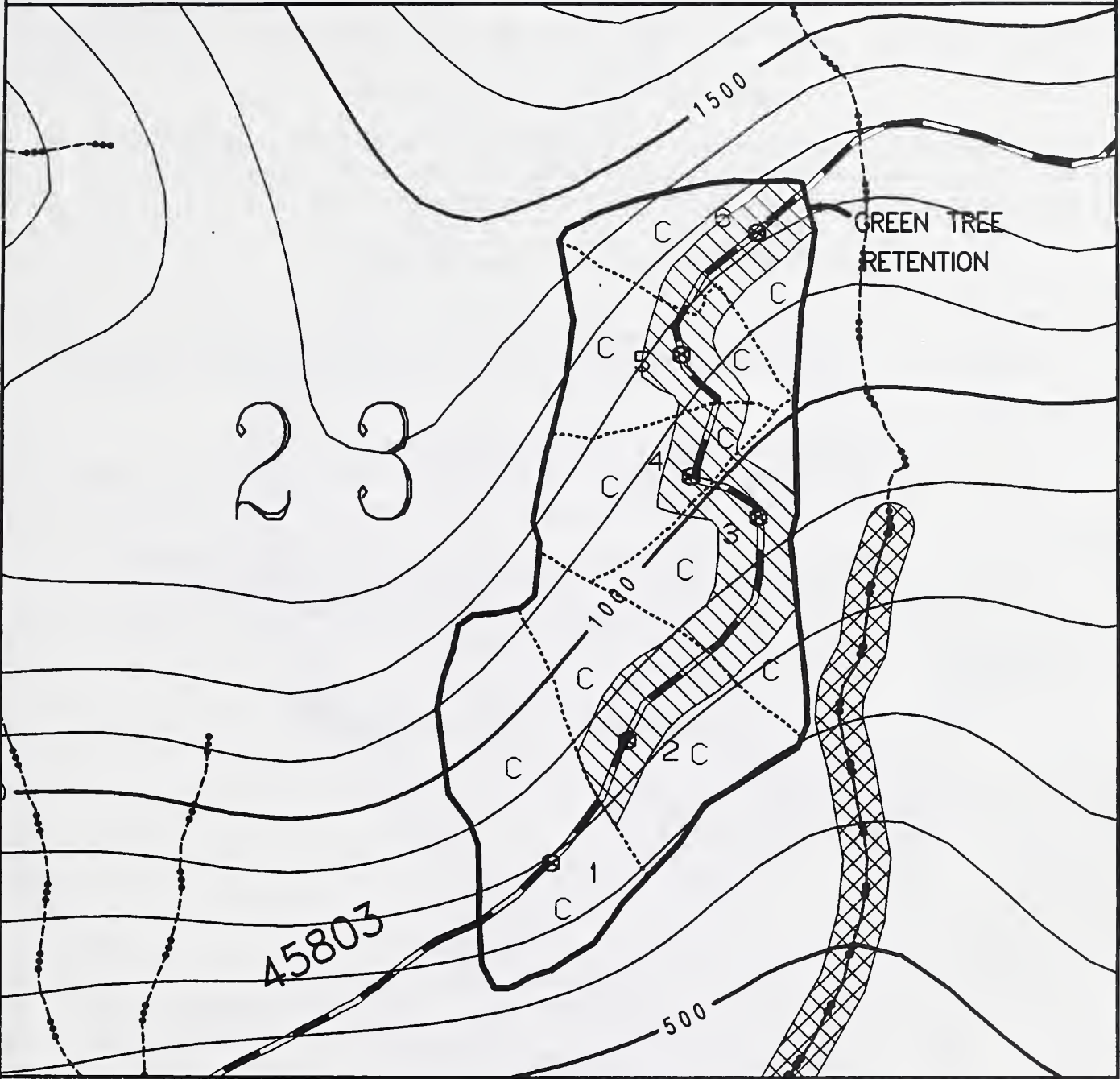
Unit is planned to be cable logged to six landings. A slackline system is recommended for the slopes above Road 45803 due to yarding distance.

AREA: SHAMROCK

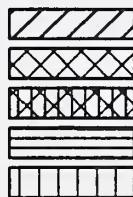
UNIT: 23

ACRES: 436

VCU: 81



FOREST DEVELOPMENT ROADS
TEMPORARY ROADS
UNIT BOUNDARY
SETTING BOUNDARIES
CLASS 1 STREAMS
CLASS 2 STREAMS
CLASS 3 STREAMS
LANDINGS (NUMBERED)



LAKES
TTRA BUFFER FOR STREAMS/LAKES
LAKE PROTECTION ZONE (TO 500')
NORTH IRISH TIMBER SALE UNITS
ELIGIBLE WILD AND SCENIC RIVER AREAS

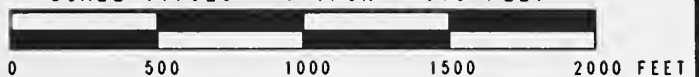
ID TEAM UNIT OBJECTIVE SUMMARY

Prescribed By: Brad Seaberg 6/23/95
Silviculturist Date
Reviewed By: David Chapin 6/23/95
I.D. Team Leader Date

FLIGHT LINE: 24 PHOTO#: 688-220

LOGGING METHOD CODES: S = SHOVEL
H = HELICOPTER C = CABLE
P = CABLE/PARTIAL SUSPENSION

CONTOUR INTERVAL 100 FEET
SCALE 1:7920 1 INCH = 660 FEET



DEVELOPMENT OF UNIT BOUNDARY

A Class II stream forms the west boundary. The lower (south) boundary follows non-commercial forest and muskeg. A modification to the south boundary was made to exclude a Class II stream TTRA buffer. A portion of this unit is located within 0.25 miles of Castle River, an eligible "Wild" river.

RESOURCE CONFLICTS AND MITIGATIONS

Soil/Water Quality/Fisheries

- Conflict: Class II streams located adjacent to unit.
Mitigation: Locate unit boundary is located to provide a 100 foot no-cut buffer strip along Class II streams.
- Conflict: High gradient V-notch is located at northwest boundary.
Mitigation: Yard logs away from V-notch. Require directional falling and removal of logging debris from V-notch channel.

Wildlife

- Conflict: Harvesting could potentially remove snags important for cavity nesting birds.
Mitigation: Retain 10 snags (6 hard and 4 soft) in shovel setting in southeast portion of unit to provide a legacy of old-growth forest structure and potential sites for nesting.
- Conflict: Unit contains marginal deer winter range habitat.
Mitigation: Conflict is not mitigated.

DESCRIPTION OF UNIT ATTRIBUTES/OBJECTIVES

Road Development: (Rounded to nearest 0.1 mile)

- 0.5 Miles of Specified Road within Unit.
0.2 Miles of spur road anticipated.
6 Landings

Timber Attributes:

- 1,286 MBF Estimated total volume within unit (net sawlog)
27 MBF Estimated volume per acre harvested within unit
Acres by Volume Class within unit:
4 Volume Class 4 (8-20 MBF/acre)
36 Volume Class 5 (20-30 MBF/acre)
8 Volume Class 6 (30-50 MBF/acre)
Volume Class 7 (50+ MBF/acre)

Stand Management Objectives: Even Age

Rotation Period: 100 years

Regeneration Method: Natural

Anticipated Treatments: Precommercial Thinning

Other Timber Considerations: None

PROPOSED ACTION OR DEVELOPMENT

Unit is planned to be cable logged to 6 landings. Two spur roads will be necessary to access Landings 1 and 3. There is one area of shovel logging in the southeast corner of the harvest unit. Retain snags at a rate of 1.5 per acre.

AREA: SHAMROCK

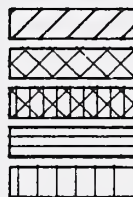
UNIT: 24

ACRES: 48

VCU: 436



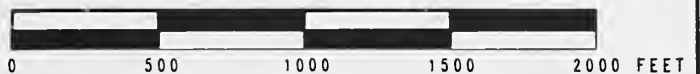
FOREST DEVELOPMENT ROADS
TEMPORARY ROADS
UNIT BOUNDARY
SETTING BOUNDARIES
CLASS 1 STREAMS
CLASS 2 STREAMS
CLASS 3 STREAMS
LANDINGS (NUMBERED)



LAKES
TTRA BUFFER FOR STREAMS/LAKES
LAKE PROTECTION ZONE (TO 500')
NORTH IRISH TIMBER SALE UNITS
ELIGIBLE WILD AND SCENIC
RIVER AREAS

LOGGING METHOD CODES: S = SHOVEL
H = HELICOPTER C = CABLE
P = CABLE/PARTIAL SUSPENSION

CONTOUR INTERVAL 100 FEET
SCALE 1:7920 1 INCH = 660 FEET



ID TEAM UNIT OBJECTIVE SUMMARY

Prescribed By: Brad Seaberg 5/21/93
Silviculturist Date
Reviewed By: David Chapin 5/21/93
I.D. Team Leader Date
FLIGHT LINE: 25 PHOTO#: 788-18

DEVELOPMENT OF UNIT BOUNDARY

Non-commercial forest land forms the north and south boundaries. The east boundary is formed by a high gradient V-Notch.

RESOURCE CONFLICTS AND MITIGATIONS

Soil/Water Quality/Fisheries

Conflict: Class III V-notch's are located within unit and adjacent to unit.

Mitigation: Split-yard away from V-notch between Landings 1 and 2. Require directional falling and removal of logging debris from V-notch stream channels.

Wildlife/Biodiversity

Conflict: Portions of units contain marginal deer winter range habitat. Harvesting could reduce habitat and potentially remove snags used by cavity nesting birds.

Mitigation: Retain 40 snags in the southeast corner of unit to provide some old-growth forest structure and potential nesting habitat for cavity nesting birds.

Visual:

Conflict: Small portion of unit can be seen from Castle River.

Mitigation: Individual trees will be left along setting boundaries and roads.

DESCRIPTION OF UNIT ATTRIBUTES/OBJECTIVES

Road Development: (Rounded to nearest 0.1 mile)

0.5 Miles of Specified Road within Unit.

0.2 Miles of spur road anticipated.

5 Landings

Timber Attributes:

1,977 MBF Estimated total volume within unit (net sawlog)

27 MBF Estimated volume per acre harvested within unit

Acres by Volume Class within unit:

37 Volume Class 4 (8-20 MBF/acre)

37 Volume Class 5 (20-30 MBF/acre)

14 Volume Class 6 (30-50 MBF/acre)

Volume Class 7 (50+ MBF/acre)

Stand Management Objectives: Even Age

Rotation Period: 100 years

Regeneration Method: Natural

Anticipated Treatments: Precommercial Thinning

Other Timber Considerations: None

PROPOSED ACTION OR DEVELOPMENT

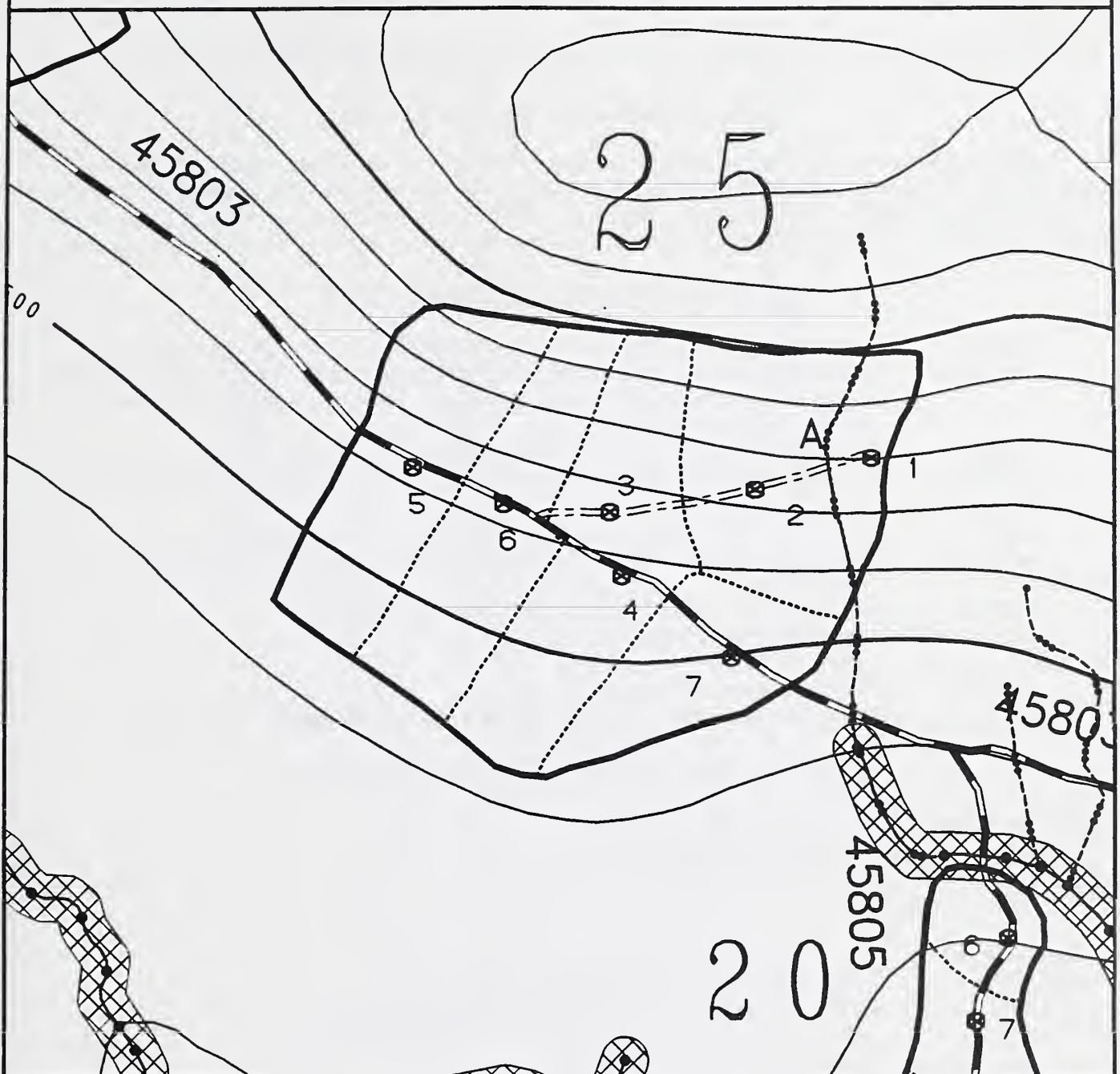
Unit is planned to be cable logged to 7 landings. One spur road will be necessary to access Landings 1, 2 and 3. Shovel logging is planned for the southeast corner of unit. Within shovel ground, retain snags at a rate of 2.0 per acre, feathered along southern boundary of Settings 4 and 7

AREA: SHAMROCK

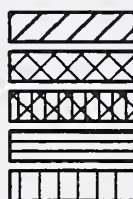
UNIT: 25

ACRES: 88

VCU: 436



FOREST DEVELOPMENT ROADS
TEMPORARY ROADS
UNIT BOUNDARY
SETTING BOUNDARIES
CLASS 1 STREAMS
CLASS 2 STREAMS
CLASS 3 STREAMS
LANDINGS (NUMBERED)



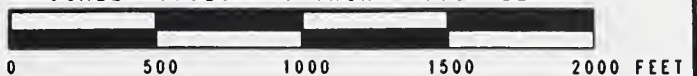
LAKES
TTRA BUFFER FOR STREAMS/LAKES
LAKE PROTECTION ZONE (TO 500')
NORTH IRISH TIMBER SALE UNITS
ELIGIBLE WILD AND SCENIC
RIVER AREAS

LOGGING METHOD CODES: S = SHOVEL
H = HELICOPTER C = CABLE
P = CABLE/PARTIAL SUSPENSION

ID TEAM UNIT OBJECTIVE SUMMARY

Prescribed By: Brad Seaberg 5/09/95
Silviculturist Date
Reviewed By: David Chapin 5/09/95
I.D. Team Leader Date
FLIGHT LINE: 24 PHOTO#: 688-221

CONTOUR INTERVAL 100 FEET
SCALE 1:7920 1 INCH = 660 FEET



DEVELOPMENT OF UNIT BOUNDARY

As originally planned, this unit was divided into two harvest units. After examining windthrow hazard conditions on the ground, it was concluded that the area between these two units should be harvested because of high windthrow potential. This area was included in a 430 acre harvest unit in the planning of the Totem Timber Sale (1984). A relatively windfirm south boundary (comprised of blowdown patches) was located.

RESOURCE CONFLICTS AND MITIGATIONS

Visual	
Conflict:	Large harvested area would be visible from Road 6314 and small plane route.
Mitigation:	Implement green tree retention area to soften visual effects. Remove approximately half the volume, with large trees being retained within the interior of the area and small trees being retained on the edge of the area.
Conflict:	Small portion of south half of unit can be seen from Tunehean Creek.
Mitigation:	Individual trees will be left along setting Boundaries and roads in south half of unit.
Soils	
Conflict:	V-notch is located in south part of unit between landings 1A and 1.
Mitigation:	Split yard V-notch. Require removal of logging debris from stream channel.
Wildlife	
Conflict:	Portions of unit contain marginal deer winter range habitat.
Mitigation:	This conflict is not mitigated.
Wetlands	
Conflict:	Unit surrounded by wetlands.
Mitigation:	Avoid unnecessary disturbance to wetlands located beyond unit boundaries.

DESCRIPTION OF UNIT ATTRIBUTES/OBJECTIVES

Road Development: (Rounded to nearest 0.1 mile)
0.9 Miles of Specified Road within Unit.
0.7 Miles of spur road anticipated.
12 Landings

Timber Attributes:

<u>3,555 MBF</u>	Estimated total volume within unit (net sawlog)
<u>20 MBF</u>	Estimated volume per acre harvested within unit
	Acres by Volume Class within unit:
<u>81</u>	Volume Class 4 (8-20 MBF/acre)
<u>82</u>	Volume Class 5 (20-30 MBF/acre)
<u>14</u>	Volume Class 6 (30-50 MBF/acre)
	Volume Class 7 (50+ MBF/acre)

Stand Management Objectives: <u>Even Age</u>	Rotation Period: <u>100 years</u>
Regeneration Method: <u>Natural</u>	Anticipated Treatments: <u>Precommercial Thinning</u>
Other Timber Considerations: <u>None</u>	

PROPOSED ACTION OR DEVELOPMENT

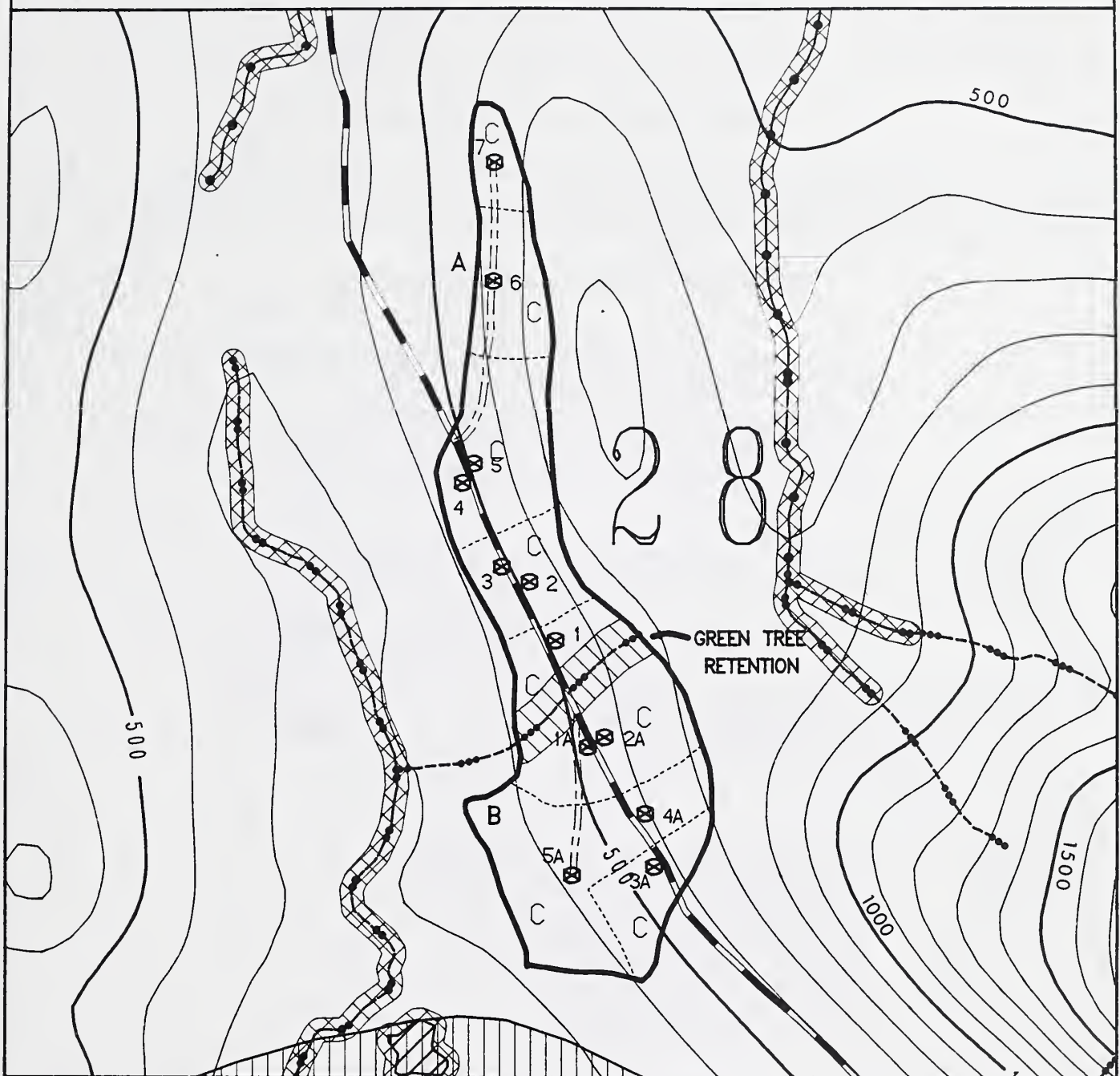
Unit is planned to be cable logged to 12 landings. Two spur roads would be necessary to provide access to Landings 5A, 6 and 7. To protect residual stand during logging, skyline system with a slackpulling carriage is recommended when harvesting the green tree retention area.

AREA: SHAMROCK

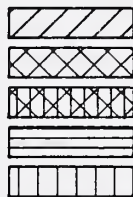
UNIT: 28

ACRES: 177

VCU: 429



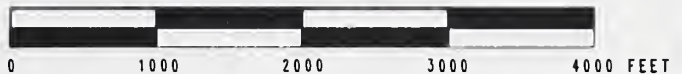
FOREST DEVELOPMENT ROADS
 TEMPORARY ROADS
 UNIT BOUNDARY
 SETTING BOUNDARIES
 CLASS 1 STREAMS
 CLASS 2 STREAMS
 CLASS 3 STREAMS
 LANDINGS (NUMBERED)



LAKES
 TTRA BUFFER FOR STREAMS/LAKES
 LAKE PROTECTION ZONE (TO 500')
 NORTH IRISH TIMBER SALE UNITS
 ELIGIBLE WILD AND SCENIC
 RIVER AREAS

LOGGING METHOD CODES: S = SHOVEL
 H = HELICOPTER C = CABLE
 P = CABLE/PARTIAL SUSPENSION

CONTOUR INTERVAL 100 FEET
 SCALE 1:15840 1 INCH = 1320 FEET



ID TEAM UNIT OBJECTIVE SUMMARY

Prescribed By:	Brad Seaberg	5/21/93
	Silviculturist	Date
Reviewed By:	David Chapin	5/21/93
	I.D. Team Leader	Date
FLIGHT LINE:	23	PHOTO#: 688-164

DEVELOPMENT OF UNIT BOUNDARY

Unit size and configuration remains unchanged from initial paper plan. A V-notch dictates the west boundary. Non-commercial forest land and muskeg influence the lower (north and east) boundary. A portion of the east side of the unit is within 0.25 miles of a Castle River tributary eligible for "Wild" river status.

RESOURCE CONFLICTS AND MITIGATIONS

Visual

- Conflict: Large harvested area exceeds 60 acres and is visible from Duncan Canal, Castle River, and the small plane route.
- Mitigation: Implement green tree retention prescription, with a target of 15 trees per acre in settings adjacent to V-notch on west side of unit. Leave trees may be clumped to ensure yarding feasibility; otherwise they should be scattered.

Soil\Watershed\Fisheries

- Conflict: Steep slopes are adjacent to V-notch on west side of unit.
- Mitigation: Require partial suspension to minimize surface disturbance.

DESCRIPTION OF UNIT ATTRIBUTES/OBJECTIVES

Road Development: (Rounded to nearest 0.1 mile)

- 0.4 Miles of Specified Road within Unit.
- 0.0 Miles of spur road anticipated.
- 4 Landings

Timber Attributes:

- 1,434 MBF Estimated total volume within unit (net sawlog)
- 18 MBF Estimated volume per acre harvested within unit
- Acres by Volume Class within unit:
- 43 Volume Class 4 (8-20 MBF/acre)
- 38 Volume Class 5 (20-30 MBF/acre)
- Volume Class 6 (30-50 MBF/acre)
- Volume Class 7 (50+ MBF/acre)

Stand Management Objectives: Even Age

Rotation Period: 100 years

Regeneration Method: Natural

Anticipated Treatments: Precommercial Thinning

Other Timber Considerations: Monitor unit to ensure adequate regeneration of Alaska-cedar.

PROPOSED ACTION OR DEVELOPMENT

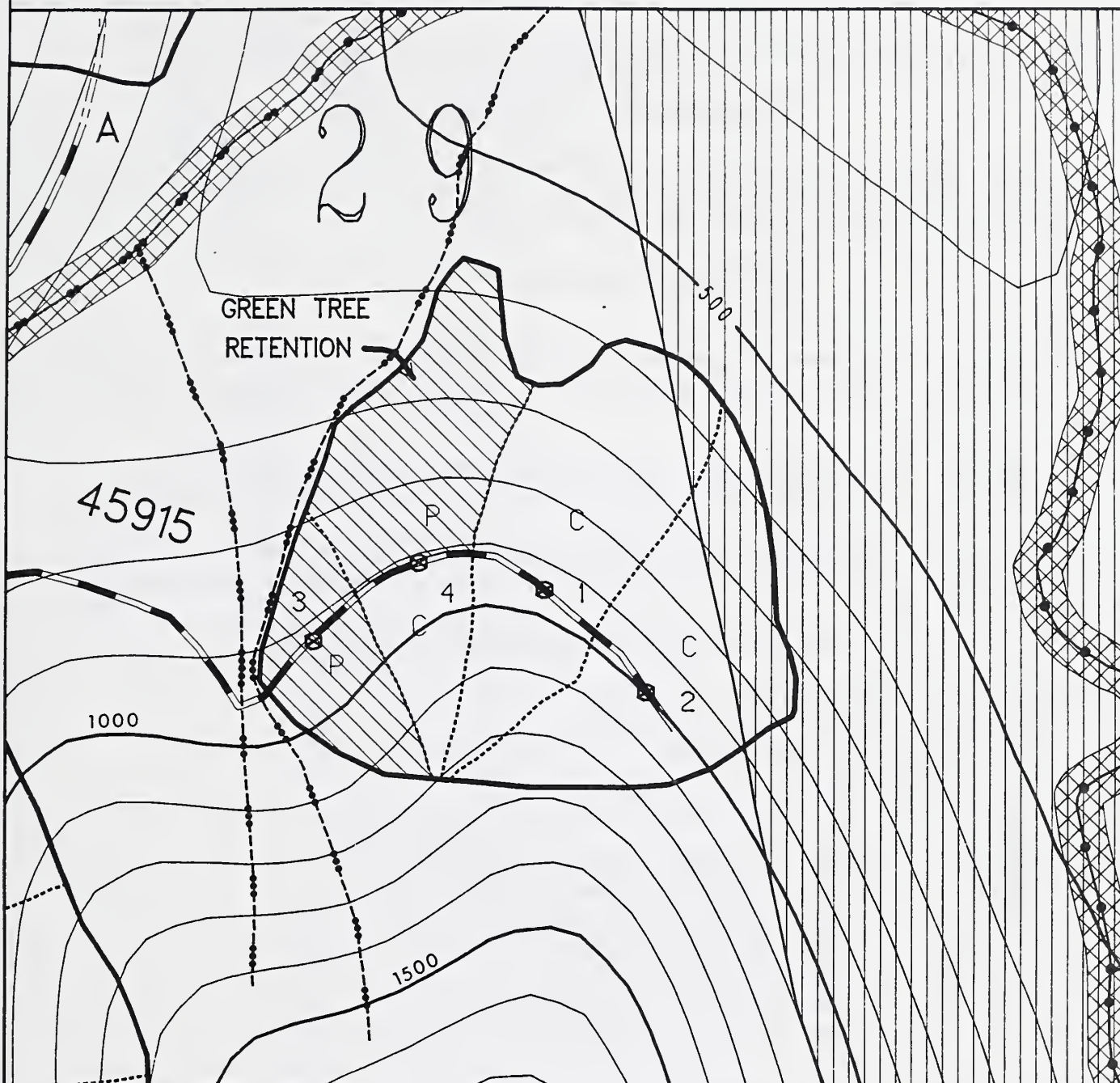
Unit is planned to be cable logged to 4 landings. Landing 2 would be used as a helicopter landing for logging Units 31, 32 and 33. A skyline system with a slackpulling carriage is recommended when harvesting those areas with partial suspension and green tree retention.

AREA: SHAMROCK

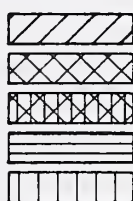
UNIT: 29

ACRES: 81

VCU: 436



FOREST DEVELOPMENT ROADS
TEMPORARY ROADS
UNIT BOUNDARY
SETTING BOUNDARIES
CLASS 1 STREAMS
CLASS 2 STREAMS
CLASS 3 STREAMS
LANDINGS (NUMBERED)



LAKES
TTRA BUFFER FOR STREAMS/LAKES
LAKE PROTECTION ZONE (TO 500')
NORTH IRISH TIMBER SALE UNITS
ELIGIBLE WILD AND SCENIC
RIVER AREAS

LOGGING METHOD CODES: S = SHOVEL
H = HELICOPTER C = CABLE
P = CABLE/PARTIAL SUSPENSION

CONTOUR INTERVAL 100 FEET
SCALE 1:7920 1 INCH = 660 FEET



ID TEAM UNIT OBJECTIVE SUMMARY

Prescribed By: Brad Seaberg 5/21/93
Silviculturist Date
Reviewed By: David Chapin 5/21/93
I.D. Team Leader Date
FLIGHT LINE: 25 PHOTO#: 788-15

Shamrock Timber Sale Unit Number: 31 Acres: 109 VCU: 436 ALT: 2

DEVELOPMENT OF UNIT BOUNDARY

Unit size and configuration remains unchanged from preliminary planning stage. A portion of the west side of unit is within 0.25 mile of a tributary of the Castle River, eligible for "Wild" river status. This unit exceeds 100 acres to avoid isolating timber on the upper slopes of this drainage.

RESOURCE CONFLICTS AND MITIGATIONS

Visual

Conflict: Harvested area exceeds 60 acres visible from Castle River and small plane route.
Mitigation: Retain snags at an average rate of 1.5 per acre. Snags could be left in groups.

Wildlife/Biodiversity

Conflict: Timber harvest will remove snags important to cavity nesting birds.
Mitigation: Retain snags at an average rate of 1.5 per acre to provide potential sites for nesting.

Wetlands

Conflict: Mixed forest-muskeg within unit extends beyond unit boundaries.
Mitigation: Avoid unnecessary disturbance to wetlands located beyond unit boundaries.

DESCRIPTION OF UNIT ATTRIBUTES/OBJECTIVES

Road Development: (Rounded to nearest 0.1 mile)

0.0 Miles of Specified Road within Unit.

0.0 Miles of spur road anticipated.

0 Landings

Timber Attributes:

2,107 MBF Estimated total volume within unit (net sawlog)
19 MBF Estimated volume per acre harvested within unit
Acres by Volume Class within unit:
49 Volume Class 4 (8-20 MBF/acre)
60 Volume Class 5 (20-30 MBF/acre)
0 Volume Class 6 (30-50 MBF/acre)
Volume Class 7 (50+ MBF/acre)

Stand Management Objectives: Even Age

Rotation Period: 100 years

Regeneration Method: Natural

Anticipated Treatments: Precommercial Thinning

Other Timber Considerations: Unit located in mountain hemlock plant series; monitor to determine if there is adequate regeneration of Alaska-cedar and Sitka spruce.

PROPOSED ACTION OR DEVELOPMENT

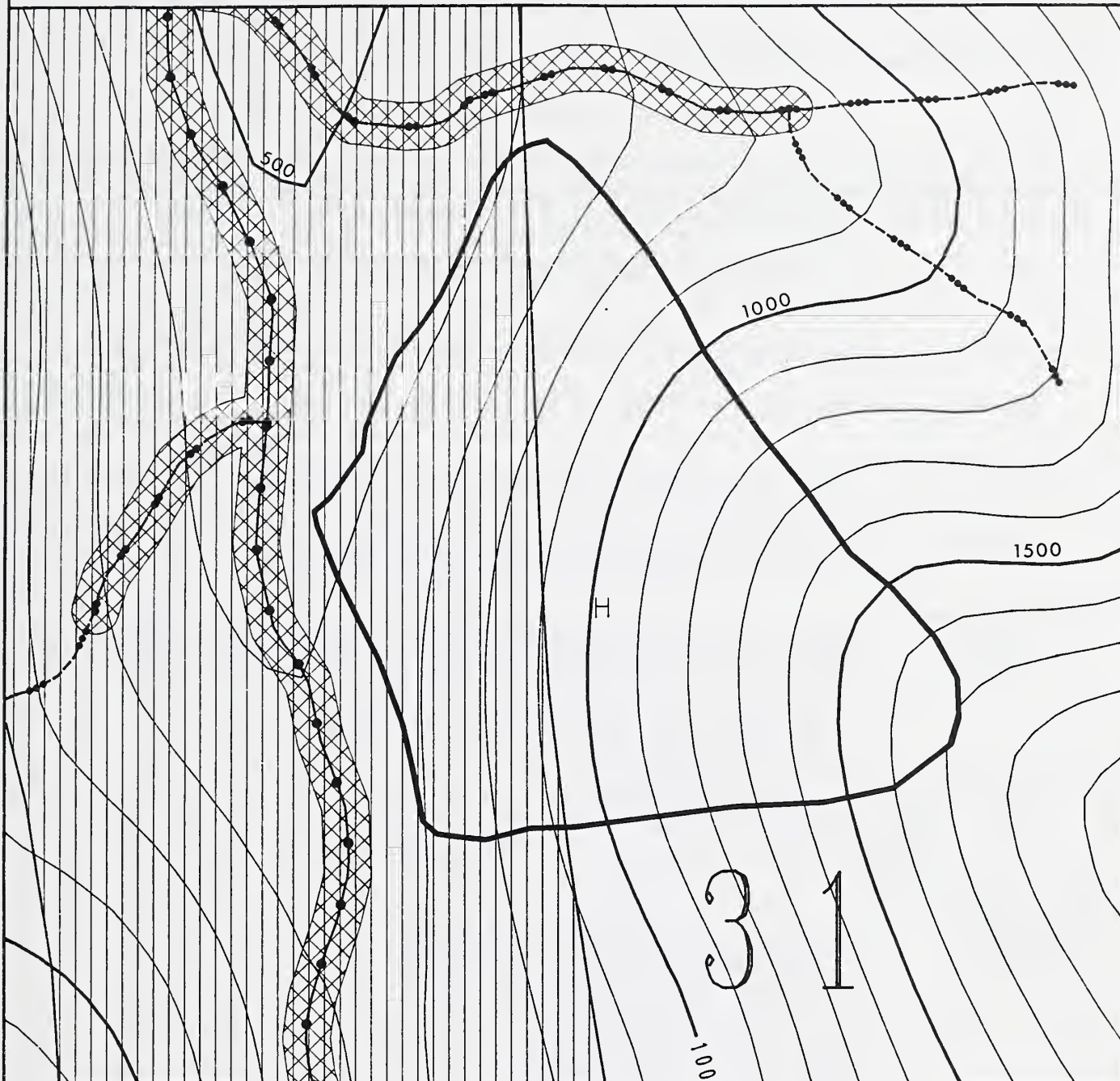
Unit is planned to be helicopter yarded to a landing in Unit 29. Snags to be retained could be grouped to allow for safe falling and yarding of timber. Timber on the lower slopes could be cable yarded to potential landings and road within the western portion of the unit, if the road were to be constructed for a future sale.

AREA: SHAMROCK

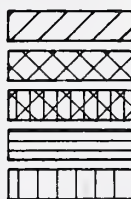
UNIT: 31

ACRES: 109

VCU: 436



FOREST DEVELOPMENT ROADS
TEMPORARY ROADS
UNIT BOUNDARY
SETTING BOUNDARIES
CLASS 1 STREAMS
CLASS 2 STREAMS
CLASS 3 STREAMS
LANDINGS (NUMBERED)



LAKES
TTRA BUFFER FOR STREAMS/LAKES
LAKE PROTECTION ZONE (TO 500')
NORTH IRISH TIMBER SALE UNITS
ELIGIBLE WILD AND SCENIC
RIVER AREAS

LOGGING METHOD CODES: S = SHOVEL
H = HELICOPTER C = CABLE
P = CABLE/PARTIAL SUSPENSION

ID TEAM UNIT OBJECTIVE SUMMARY

Prescribed By: Brad Seaberg 5/21/93
Silviculturist Date
Reviewed By: David Chapin 5/21/93
I.D. Team Leader Date
FLIGHT LINE: 25 PHOTO#: 788-14

CONTOUR INTERVAL 100 FEET
SCALE 1:7920 1 INCH = 660 FEET



DEVELOPMENT OF UNIT BOUNDARY

Unit size and configuration remains unchanged from the preliminary planning stage. Unit exceeds 100 acres to minimize windthrow hazard to adjacent stands and to avoid isolating timber stands. A portion of the west side of unit is within 0.25 mile of a tributary of the Castle River, eligible for "Wild" river status.

RESOURCE CONFLICTS AND MITIGATIONS

Visual

- Conflict: Large harvested area exceeds 60 acres visible from Castle River and small plane route.
Mitigation: Retain snags at an average rate of 1.5 snags per acre. Snags could be left in groups.

Soil\Watershed\Fisheries

- Conflict: Class III V-notch channel in northeast corner of unit drains into Class II stream 300 feet downstream.
Mitigation: Helicopter yarding would eliminate surface disturbance. Require directional falling and removal of logging debris from Class III stream channel.

Wildlife/Biodiversity

- Conflict: Timber harvest could potentially remove snags important to cavity nesting birds.
Mitigation: Retain snags at an average rate of 1.5 per acre to provide potential sites for nesting.

DESCRIPTION OF UNIT ATTRIBUTES/OBJECTIVES

Road Development: (Rounded to nearest 0.1 mile)

- 0.0 Miles of Specified Road within Unit.
0.0 Miles of spur road anticipated.
0 Landings

Timber Attributes:

- 3,029 MBF Estimated total volume within unit (net sawlog)
19 MBF Estimated volume per acre harvested within unit
Acres by Volume Class within unit:
69 Volume Class 4 (8-20 MBF/acre)
87 Volume Class 5 (20-30 MBF/acre)
Volume Class 6 (30-50 MBF/acre)
Volume Class 7 (50+ MBF/acre)

Stand Management Objectives: Even Age

Rotation Period: 100 years

Regeneration Method: Natural

Anticipated Treatments: Precommercial Thinning

Other Timber Considerations: None

PROPOSED ACTION OR DEVELOPMENT

Unit is planned to be helicopter yarded to a landing in Unit 29. Snags to be retained could be grouped to allow for safe falling and yarding of timber. Timber on the lower slopes could be cable yarded to potential landings and roads within the western portion of the unit, if the road were to be constructed for a future sale.

AREA: SHAMROCK

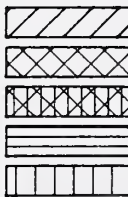
UNIT: 32

ACRES: 156

VCU: 436



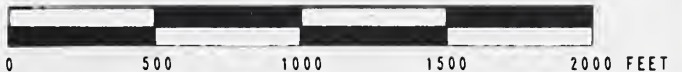
FOREST DEVELOPMENT ROADS
TEMPORARY ROADS
UNIT BOUNDARY
SETTING BOUNDARIES
CLASS 1 STREAMS
CLASS 2 STREAMS
CLASS 3 STREAMS
LANDINGS (NUMBERED)



LAKES
TTRA BUFFER FOR STREAMS/LAKES
LAKE PROTECTION ZONE (TO 500')
NORTH IRISH TIMBER SALE UNITS
ELIGIBLE WILD AND SCENIC
RIVER AREAS

LOGGING METHOD CODES: S = SHOVEL
H = HELICOPTER C = CABLE
P = CABLE/PARTIAL SUSPENSION

CONTOUR INTERVAL 100 FEET
SCALE 1:7920 1 INCH = 660 FEET



ID TEAM UNIT OBJECTIVE SUMMARY

Prescribed By: Brad Seaberg 5/21/93
Silviculturist Date
Reviewed By: David Chapin 5/21/93
I.D. Team Leader Date
FLIGHT LINE: 25 PHOTO#: 788-16

Shamrock Timber Sale Unit Number: 33 Acres: 77 VCU: 436 ALT: 2

DEVELOPMENT OF UNIT BOUNDARY

Unit size and configuration remains unchanged from the preliminary planning stage.

RESOURCE CONFLICTS AND MITIGATIONS

Visual

- Conflict: Large harvested area exceeds 60 acres visible from Castle River, small plane route, and Duncan Canal.
Mitigation: Retain snags at an average rate of 1.5 snags per acre. Snags could be left in groups.

Wildlife/Biodiversity

- Conflict: Timber harvest could potentially remove snags important to cavity nesting birds.
Mitigation: Retain snags at an average rate of 1.5 per acre to provide potential sites for nesting.

Soil\Watershed\Fisheries

- Conflict: Steep slopes and several V-notch's are located within unit.
Mitigation: Helicopter yarding would eliminate surface disturbance. Require directional falling from V-notches and removal of logging debris from V-notch channels.

DESCRIPTION OF UNIT ATTRIBUTES/OBJECTIVES

Road Development: (Rounded to nearest 0.1 mile)
0.0 Miles of Specified Road within Unit.
0.0 Miles of spur road anticipated.
0 Landings

Timber Attributes:

1,791 MBF Estimated total volume within unit (net sawlog)
23 MBF Estimated volume per acre harvested within unit
 Acres by Volume Class within unit:
13 Volume Class 4 (8-20 MBF/acre)
62 Volume Class 5 (20-30 MBF/acre)
2 Volume Class 6 (30-50 MBF/acre)
 Volume Class 7 (50+ MBF/acre)

Stand Management Objectives: Even Age

Rotation Period: 100 years

Regeneration Method: Natural

Anticipated Treatments: Precommercial Thinning

Other Timber Considerations: None

PROPOSED ACTION OR DEVELOPMENT

Unit is planned to be helicopter yarded to a landing in Unit 29. Snags to be retained could be grouped to allow for safe falling and yarding of timber. Timber on the lower slopes could be cable yarded to potential landings and roads within the north portion of the unit, if the road were to be constructed for a future sale.

AREA: SHAMROCK

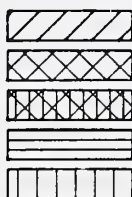
UNIT: 33

ACRES: 77

VCU: 436



FOREST DEVELOPMENT ROADS
TEMPORARY ROADS
UNIT BOUNDARY
SETTING BOUNDARIES
CLASS 1 STREAMS
CLASS 2 STREAMS
CLASS 3 STREAMS
LANDINGS (NUMBERED)



LAKES
TTRA BUFFER FOR STREAMS/LAKES
LAKE PROTECTION ZONE (TO 500')
NORTH IRISH TIMBER SALE UNITS
ELIGIBLE WILD AND SCENIC
RIVER AREAS

LOGGING METHOD CODES: S = SHOVEL
H = HELICOPTER C = CABLE
P = CABLE/PARTIAL SUSPENSION

ID TEAM UNIT OBJECTIVE SUMMARY

Prescribed By: Brad Seaberg 5/21/93

Silviculturist Date

Reviewed By: David Chapin 5/21/93

I.D. Team Leader Date

FLIGHT LINE: 25 PHOTO#: 788-16

CONTOUR INTERVAL 100 FEET

SCALE 1:7920 1 INCH = 660 FEET



0 500 1000 1500 2000 FEET

Shamrock Timber Sale Unit Number: 35 Acres: 40 VCU: 429 ALT: 2, 4, 5

DEVELOPMENT OF UNIT BOUNDARY

Unit remains relatively unchanged from the preliminary planning process.

RESOURCE CONFLICTS AND MITIGATIONS

Wildlife

Conflict: Portions of unit contain marginal deer winter range habitat.
Mitigation: This conflict is not mitigated as unit is designed.

DESCRIPTION OF UNIT ATTRIBUTES/OBJECTIVES

Road Development: (Rounded to nearest 0.1 mile)

0.5 Miles of Specified Road within Unit.
0.0 Miles of spur road anticipated.
4 Landings

Timber Attributes:

996 MBF Estimated total volume within unit (net sawlog)
25 MBF Estimated volume per acre harvested within unit
 Acres by Volume Class within unit:
 0 Volume Class 4 (8-20 MBF/acre)
 40 Volume Class 5 (20-30 MBF/acre)
 0 Volume Class 6 (30-50 MBF/acre)
 Volume Class 7 (50+ MBF/acre)

Stand Management Objectives: Even Age

Rotation Period: 100 years

Regeneration Method: Natural

Anticipated Treatments: Precommercial Thinning

Other Timber Considerations: Monitor unit to determine if Alaska-cedar regeneration is adequate.

PROPOSED ACTION OR DEVELOPMENT

Unit is planned to be cable logged to 4 landings.

AREA: SHAMROCK

UNIT: 35

ACRES: 40

VCU: 429



ID TEAM UNIT OBJECTIVE SUMMARY

Prescribed By: Brad Seaberg 5/21/93
Silviculturist Date

Reviewed By: David Chapin 5/21/93
I.D. Team Leader Date

FLIGHT LINE: 24 PHOTO#: 688-225

DEVELOPMENT OF UNIT BOUNDARY

During the planning of this unit, size was expanded in order to make a logical southern unit boundary and to prevent isolating timber on the upper slope. The west boundary is dictated by a V-notch. The east boundary follows muskegs and non-commercial forest.

RESOURCE CONFLICTS AND MITIGATIONS

Visual

- Conflict: Large harvested area exceeds 60 acres and is visible from Duncan Canal, the small plane route, and Castle River.
Mitigation: Implement green tree retention prescription, with a target of 15 trees per acre on the upper slopes of unit and along temporary road within unit. Leave trees may be clumped to ensure yarding feasibility; otherwise they should be scattered.

Soil\Watershed\Fisheries

- Conflict: Class III channel along the northwest boundary grades into Class II stream.
Mitigation: Maintain 100 foot buffer strip along channel. Exclude Class II TTRA buffer from unit. Require directional falling and removal of logging debris from Class III stream channel.
Conflict: Unit contains 13 acres of high hazard soils.
Mitigation: Require partial suspension on upper slopes of harvest unit. Leave approximately 15 small trees (< 16 inch dbh) per acre on upper slope to maintain slope stability.

Wildlife/Biodiversity

- Conflict: Timber harvest will remove snags important to cavity nesting birds.
Mitigation: Retain snags at a rate of 1.5 per acre to provide potential sites for nesting.

DESCRIPTION OF UNIT ATTRIBUTES/OBJECTIVES

Road Development: (Rounded to nearest 0.1 mile)

- 0.0 Miles of Specified Road within Unit.
0.6 Miles of spur road anticipated.
4 Landings

Timber Attributes:

- 2,591 MBF Estimated total volume within unit (net sawlog)
23 MBF Estimated volume per acre harvested within unit
Acres by Volume Class within unit:
39 Volume Class 4 (8-20 MBF/acre)
61 Volume Class 5 (20-30 MBF/acre)
14 Volume Class 6 (30-50 MBF/acre)
Volume Class 7 (50+ MBF/acre)

Stand Management Objectives: Even Age

Rotation Period: 100 years

Regeneration Method: Natural

Anticipated Treatments: Precommercial Thinning

Other Timber Considerations: Monitor unit to ensure there is adequate regeneration of Alaska-cedar and Sitka spruce.

PROPOSED ACTION OR DEVELOPMENT

Unit is planned to be cable logged to 4 landings. A skyline system with a slackpulling carriage is recommended when harvesting those areas with green tree retention to avoid damage to residual trees.

AREA: SHAMROCK

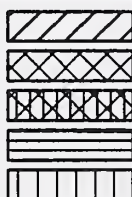
UNIT: 36

ACRES: 436

VCU: 114



FOREST DEVELOPMENT ROADS
TEMPORARY ROADS
UNIT BOUNDARY
SETTING BOUNDARIES
CLASS 1 STREAMS
CLASS 2 STREAMS
CLASS 3 STREAMS
LANDINGS (NUMBERED)



LAKES
TTRA BUFFER FOR STREAMS/LAKES
LAKE PROTECTION ZONE (TO 500')
NORTH IRISH TIMBER SALE UNITS
ELIGIBLE WILD AND SCENIC
RIVER AREAS

ID TEAM UNIT OBJECTIVE SUMMARY

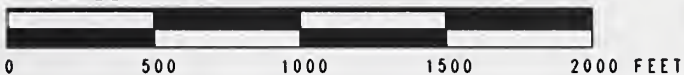
Prescribed By: Brad Seaberg 6/23/95
Silviculturist Date

Reviewed By: David Chapin 6/23/95
I.D. Team Leader Date

FLIGHT LINE: 24 PHOTO#: 688-224

LOGGING METHOD CODES: S = SHOVEL
H = HELICOPTER C = CABLE
P = CABLE/PARTIAL SUSPENSION

CONTOUR INTERVAL 100 FEET
SCALE 1:7920 1 INCH = 660 FEET



DEVELOPMENT OF UNIT BOUNDARY

The extent of this unit was limited by a significant V-notch south of the planned unit boundary.

RESOURCE CONFLICTS AND MITIGATIONS

Visual

- Conflict: Unit exceeds TLMP VQO/VAC setting guidelines for 60 acre clearcuts and is visible from the southern plan route. Harvested opening would meet inventoried VQO of modification after greening up. A portion of the unit is in a VMC 2.
- Mitigation: IDT agreed to leave unit size at 66 acres, meeting the modification VQO. IDT considered partial cutting or snag retention infeasible. Unit is not seen from Duncan Canal.

Wildlife

- Conflict: Portions of unit contain marginal deer winter range habitat.
- Mitigation: This conflict is not mitigated.

DESCRIPTION OF UNIT ATTRIBUTES/OBJECTIVES

Road Development: (Rounded to nearest 0.1 mile)

- 0.1 Miles of Specified Road within Unit (under Alternative 2 only).
- 0.6 Miles of spur road anticipated.
- 4 Landings

Timber Attributes:

- 1,277 MBF Estimated total volume within unit (net sawlog)
- 19 MBF Estimated volume per acre harvested within unit
- Acres by Volume Class within unit:
- 31 Volume Class 4 (8-20 MBF/acre)
- 34 Volume Class 5 (20-30 MBF/acre)
- 1 Volume Class 6 (30-50 MBF/acre)
- Volume Class 7 (50+ MBF/acre)

Stand Management Objectives: Even Age

Rotation Period: 100 years

Regeneration Method: Natural

Anticipated Treatments: Precommercial Thinning

Other Timber Considerations: None

PROPOSED ACTION OR DEVELOPMENT

Unit is planned to be cable logged to 4 landings.

AREA: SHAMROCK

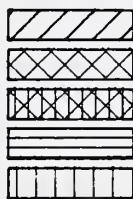
UNIT: 37

ACRES: 66

VCU: 429/436



FOREST DEVELOPMENT ROADS
 TEMPORARY ROADS
 UNIT BOUNDARY
 SETTING BOUNDARIES
 CLASS 1 STREAMS
 CLASS 2 STREAMS
 CLASS 3 STREAMS
 LANDINGS (NUMBERED)



LAKES
 TTRA BUFFER FOR STREAMS/LAKES
 LAKE PROTECTION ZONE (TO 500')
 NORTH IRISH TIMBER SALE UNITS
 ELIGIBLE WILD AND SCENIC
 RIVER AREAS

LOGGING METHOD CODES: S = SHOVEL
 H = HELICOPTER C = CABLE
 P = CABLE/PARTIAL SUSPENSION

CONTOUR INTERVAL 100 FEET
 SCALE 1:7920 1 INCH = 660 FEET



ID TEAM UNIT OBJECTIVE SUMMARY

Prescribed By: Brad Seaberg 5/21/93
 Silviculturist Date

Reviewed By: David Chapin 5/21/93
 I.D. Team Leader Date

FLIGHT LINE: 24 PHOTO#: 688-225

DEVELOPMENT OF UNIT BOUNDARY

This unit is essentially the same unit that was originally planned. A Class II stream dictated the location of the western boundary of this unit.

RESOURCE CONFLICTS AND MITIGATIONS

Soil/Water Quality/Fisheries

- Conflict: A Class II stream forms the west boundary of this unit.
Mitigation: Unit boundary is located to provide a 100 foot no-cut buffer strip along Class II stream.
Conflict: Three Class III streams are within unit.
Mitigation: Split-yard away from Class III streams.

Wildlife/Biodiversity

- Conflict: Portions of unit contain marginal deer winter range habitat. Harvesting would alter habitat and could reduce potential snags.
Mitigation: Harvest one third of the unit in small groups varying between 1 and 2 acres in size. Retain snags at a rate of 2 per acre (for a total of 80). Group selection cutting would closely mimic natural stand-creating conditions, and mitigate loss of old-growth habitat.

DESCRIPTION OF UNIT ATTRIBUTES/OBJECTIVES

Road Development: (Rounded to nearest 0.1 mile)

- 0.3 Miles of Specified Road within Unit.
0.0 Miles of spur road anticipated.
4 Landings

Timber Attributes:

- 530 MBF Estimated total volume within unit (net sawlog)
12 MBF Estimated volume per acre harvested within unit
Acres by Volume Class within unit:
2 Volume Class 4 (8-20 MBF/acre)
10 Volume Class 5 (20-30 MBF/acre)
31 Volume Class 6 (30-50 MBF/acre)
Volume Class 7 (50+ MBF/acre)

Stand Management Objectives: Uneven Age

Regeneration Method: Natural

Other Timber Considerations: After 10-15 years, precommercial thin harvested areas.

Rotation Period: 100 years

Anticipated Treatments: None

PROPOSED ACTION OR DEVELOPMENT

This unit is planned for uneven-aged management. Patches to be harvested would be located to minimize logging damage in future entries. Unit could be harvested by shovel logging patches to a cold deck and swing yarding logs to cable yarding machines, skidding logs through use of low pressure ground skidding equipment, or helicopter yarding.

AREA: SHAMROCK

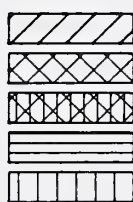
UNIT: 40

ACRES: 43

VCU: 429



FOREST DEVELOPMENT ROADS
TEMPORARY ROADS
UNIT BOUNDARY
SETTING BOUNDARIES
CLASS 1 STREAMS
CLASS 2 STREAMS
CLASS 3 STREAMS
LANDINGS (NUMBERED)



LAKES
TTTRA BUFFER FOR STREAMS/LAKES
LAKE PROTECTION ZONE (TO 500')
NORTH IRISH TIMBER SALE UNITS
ELIGIBLE WILD AND SCENIC
RIVER AREAS

LOGGING METHOD CODES: S = SHOVEL
H = HELICOPTER C = CABLE
P = CABLE/PARTIAL SUSPENSION

ID TEAM UNIT OBJECTIVE SUMMARY

Prescribed By: Brad Seaberg 5/21/93
Silviculturist Date
Reviewed By: David Chapin 5/21/93
I.D. Team Leader Date
FLIGHT LINE: 24 PHOTO#: 688-227

CONTOUR INTERVAL 100 FEET
SCALE 1:7920 1 INCH = 660 FEET



Shamrock Timber Sale Unit Number: 42 Acres: 70 VCU: 429 ALT: 2, 3, 4, 5

DEVELOPMENT OF UNIT BOUNDARY

The extent of this unit was limited by a significant V-notch south of the planned unit boundary.

RESOURCE CONFLICTS AND MITIGATIONS

Wildlife

Conflict: Portions of units contain marginal deer winter range habitat.
Mitigation: This conflict is not mitigated since adequate habitat exists elsewhere.

Wetland

Conflict: 43% of unit is forested wetland and forested wetlands extend beyond unit boundaries.
Mitigation: Avoid unnecessary disturbance to wetlands located beyond unit boundaries.

DESCRIPTION OF UNIT ATTRIBUTES/OBJECTIVES

Road Development: (Rounded to nearest 0.1 mile)

0.4 Miles of Specified Road within Unit.
0.0 Miles of spur road anticipated.
2 Landings

Timber Attributes:

1,247 MBF Estimated total volume within unit (net sawlog)
18 MBF Estimated volume per acre harvested within unit
 Acres by Volume Class within unit:
 40 Volume Class 4 (8-20 MBF/acre)
 30 Volume Class 5 (20-30 MBF/acre)
 0 Volume Class 6 (30-50 MBF/acre)
 Volume Class 7 (50+ MBF/acre)

Stand Management Objectives: Even Age

Rotation Period: 100 years

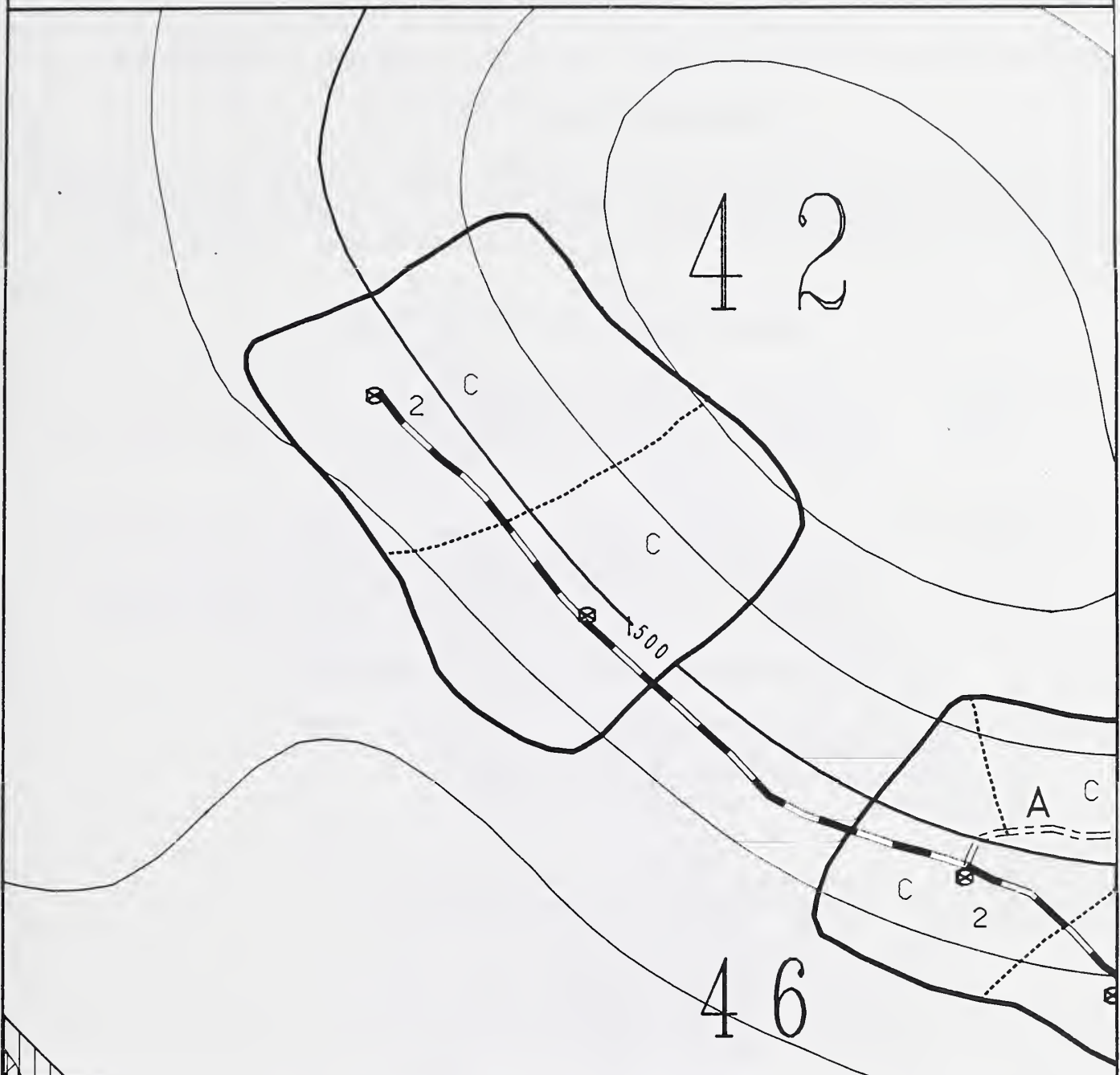
Regeneration Method: Natural

Anticipated Treatments: Precommercial Thinning

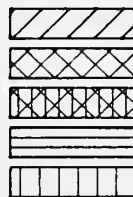
Other Timber Considerations: None

PROPOSED ACTION OR DEVELOPMENT

Unit is planned to be cable logged to 2 landings.



FOREST DEVELOPMENT ROADS
TEMPORARY ROADS
UNIT BOUNDARY
SETTING BOUNDARIES
CLASS 1 STREAMS
CLASS 2 STREAMS
CLASS 3 STREAMS
LANDINGS (NUMBERED)



LAKES
TTRA BUFFER FOR STREAMS/LAKES
LAKE PROTECTION ZONE (TO 500')
NORTH IRISH TIMBER SALE UNITS
ELIGIBLE WILD AND SCENIC
RIVER AREAS

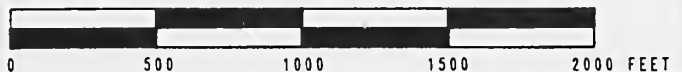
LOGGING METHOD CODES: S = SHOVEL
H = HELICOPTER C = CABLE
P = CABLE/PARTIAL SUSPENSION

ID TEAM UNIT OBJECTIVE SUMMARY

Prescribed By: Brad Seaberg 5/21/93
Silviculturist Date
Reviewed By: David Chapin 5/21/93
I.D. Team Leader Date

FLIGHT LINE: 23 PHOTO#: 688-167

CONTOUR INTERVAL 100 FEET
SCALE 1:7920 1 INCH = 660 FEET



DEVELOPMENT OF UNIT BOUNDARY

The original unit size was planned at 40 acres. During the environmental analysis unit size was reduced to 20 acres to account for noncommercial forest timberland and Class II streams. Noncommercial forest land and muskeg mark the west, north and east boundaries. A Class II TTRA buffer forms the south boundary. A 200 foot wide buffer area (100 foot on each side of stream) is excluded from harvesting in the north portion of unit.

RESOURCE CONFLICTS AND MITIGATIONS

Watershed/Fisheries

Conflict: Class II streams are located in close proximity to unit.
Mitigation: Unit boundary is located to provide a 100 foot no-cut buffer strip along each side of the Class II stream.

Wildlife/Biodiversity

Conflict: Portions of unit contain marginal deer winter range habitat. Harvesting would alter habitat and remove potential snags used by cavity nesting birds.
Mitigation: Retain snags at a rate of 2 per acre (75 percent hard and 25 percent soft) to provide potential nest sites. Loss of marginal deer winter range habitat is not mitigated.

DESCRIPTION OF UNIT ATTRIBUTES/OBJECTIVES

Road Development: (Rounded to nearest 0.1 mile)

0.4 Miles of Specified Road within Unit.
0.0 Miles of spur road anticipated.
3 Landings

Timber Attributes:

448 MBF Estimated total volume within unit (net sawlog)
22 Estimated volume per acre harvested within unit
Acres by Volume Class within unit:
4 Volume Class 4 (8-20 MBF/acre)
16 Volume Class 5 (20-30 MBF/acre)
Volume Class 6 (30-50 MBF/acre)
Volume Class 7 (50+ MBF/acre)

Stand Management Objectives: Even Age

Rotation Period: 100 years

Regeneration Method: Natural

Anticipated Treatments: Precommercial Thinning

Other Timber Considerations: None

PROPOSED ACTION OR DEVELOPMENT

Unit is relatively flat with gentle slopes. Shovel logging is appropriate to meet unit objectives.

AREA: SHAMROCK

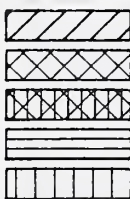
UNIT: 43

ACRES: 20

VCU: 436



FOREST DEVELOPMENT ROADS
 TEMPORARY ROADS
 UNIT BOUNDARY
 SETTING BOUNDARIES
 CLASS 1 STREAMS
 CLASS 2 STREAMS
 CLASS 3 STREAMS
 LANDINGS (NUMBERED)



LAKES
 TTRA BUFFER FOR STREAMS/LAKES
 LAKE PROTECTION ZONE (TO 500')
 NORTH IRISH TIMBER SALE UNITS
 ELIGIBLE WILD AND SCENIC
 RIVER AREAS

LOGGING METHOD CODES: S = SHOVEL
 H = HELICOPTER C = CABLE
 P = CABLE/PARTIAL SUSPENSION

ID TEAM UNIT OBJECTIVE SUMMARY

Prescribed By: Brad Seaberg 5/21/93
 Silviculturist Date
 Reviewed By: David Chapin 5/21/93
 I.D. Team Leader Date
 FLIGHT LINE: 23 PHOTO#: 688-167

CONTOUR INTERVAL 100 FEET
 SCALE 1:7920 1 INCH = 660 FEET



Shamrock Timber Sale Unit Number: 45 Acres: 60 VCU: 429 ALT: 2, 3, 4, 5

DEVELOPMENT OF UNIT BOUNDARY

This unit is essentially the same unit proposed in the preliminary planning stage. The unit is bounded by noncommercial forest land and muskeg.

RESOURCE CONFLICTS AND MITIGATIONS

Watershed/Fisheries

Conflict: V-notch is located in northwest corner of unit.
Mitigation: Require partial suspension in this setting to minimize disturbance to stream channel.
 Require directional falling and removal of logging debris from stream channel.

DESCRIPTION OF UNIT ATTRIBUTES/OBJECTIVES

Road Development: (Rounded to nearest 0.1 mile)

0.0 Miles of Specified Road within Unit.
0.4 Miles of spur road anticipated.
3 Landings

Timber Attributes:

1,097 MBF Estimated total volume within unit (net sawlog)
18 Estimated volume per acre harvested within unit
 Acres by Volume Class within unit:
 32 Volume Class 4 (8-20 MBF/acre)
 28 Volume Class 5 (20-30 MBF/acre)
 0 Volume Class 6 (30-50 MBF/acre)
 Volume Class 7 (50+ MBF/acre)

Stand Management Objectives: Even Age

Rotation Period: 100 years

Regeneration Method: Natural

Anticipated Treatments: Precommercial Thinning

Other Timber Considerations: None

PROPOSED ACTION OR DEVELOPMENT

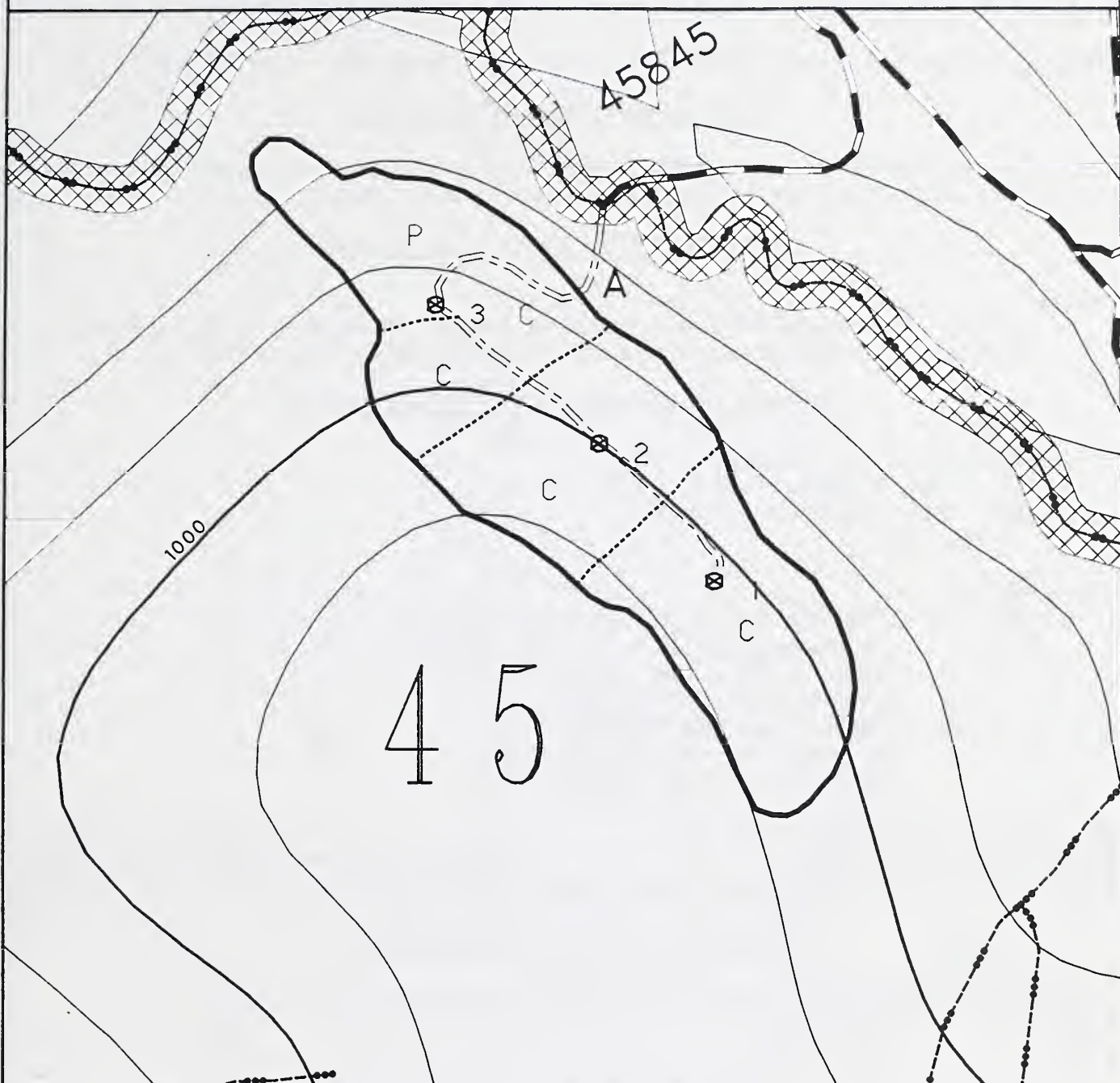
Unit can be cable logged to three landings on temporary spur road. A skyline system is recommended to achieve partial suspension in the northwest portion of unit.

AREA: SHAMROCK

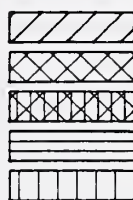
UNIT: 45

ACRES: 60

VCU: 429



FOREST DEVELOPMENT ROADS
 TEMPORARY ROADS
 UNIT BOUNDARY
 SETTING BOUNDARIES
 CLASS 1 STREAMS
 CLASS 2 STREAMS
 CLASS 3 STREAMS
 LANDINGS (NUMBERED)



LAKES
 TTRA BUFFER FOR STREAMS/LAKES
 LAKE PROTECTION ZONE (TO 500')
 NORTH IRISH TIMBER SALE UNITS
 ELIGIBLE WILD AND SCENIC
 RIVER AREAS

LOGGING METHOD CODES: S = SHOVEL
 H = HELICOPTER C = CABLE
 P = CABLE/PARTIAL SUSPENSION

ID TEAM UNIT OBJECTIVE SUMMARY

Prescribed By:	Brad Seaberg	5/21/93
	Silviculturist	Date
Reviewed By:	David Chapin	5/21/93
	I.D. Team Leader	Date
FLIGHT LINE:	22	PHOTO#: 688-122

CONTOUR INTERVAL 100 FEET
 SCALE 1:7920 1 INCH = 660 FEET



Shamrock Timber Sale Unit Number: 46 Acres: 43 VCU: 429 ALT: 2, 3, 4, 5

DEVELOPMENT OF UNIT BOUNDARY

This unit is essentially the same unit originally planned. The unit is bounded by noncommercial forest land and muskeg on the north and south boundaries and a stream channel on the east boundary.

RESOURCE CONFLICTS AND MITIGATIONS

Wetlands

Conflicts: 51% of unit is forested wetland and forested wetlands extend beyond unit boundary.
Mitigation: Avoid unnecessary disturbance of wetlands located beyond unit boundaries.

DESCRIPTION OF UNIT ATTRIBUTES/OBJECTIVES

Road Development: (Rounded to nearest 0.1 mile)

0.3 Miles of Specified Road within Unit.
0.1 Miles of spur road anticipated.
3 Landings

Timber Attributes:

810 MBF Estimated total volume within unit (net sawlog)
19 Estimated volume per acre harvested within unit
 Acres by Volume Class within unit:
21 Volume Class 4 (8-20 MBF/acre)
22 Volume Class 5 (20-30 MBF/acre)
0 Volume Class 6 (30-50 MBF/acre)
 Volume Class 7 (50+ MBF/acre)

Stand Management Objectives: Even Age

Rotation Period: 100 years

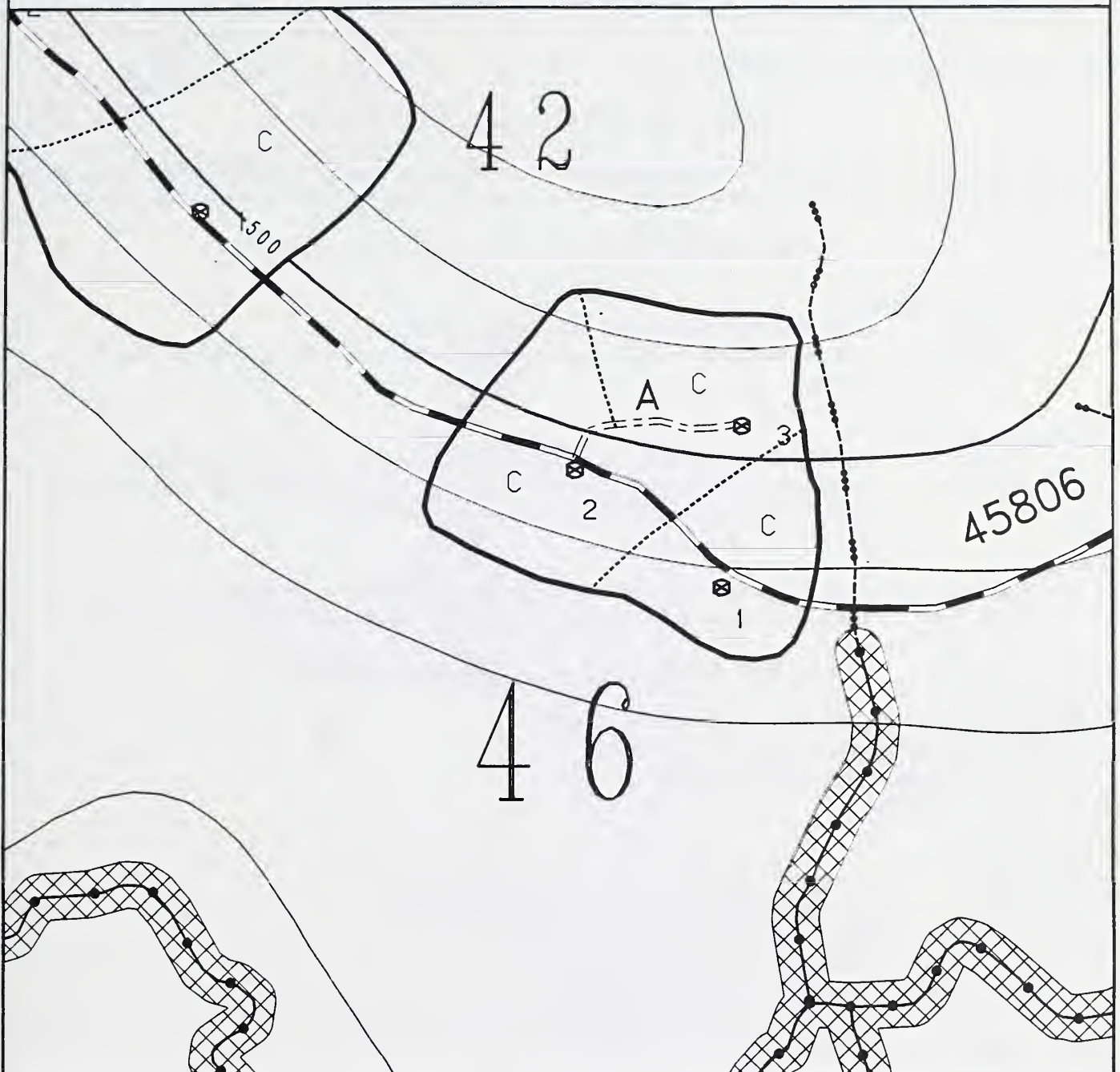
Regeneration Method: Natural

Anticipated Treatments: Precommercial Thinning

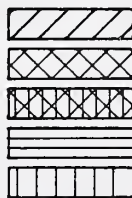
Other Timber Considerations: Monitor to ensure adequate regeneration of Alaska-cedar.

PROPOSED ACTION OR DEVELOPMENT

Unit can be cable logged to two landings on Road 45806 and one landing on a spur road.



FOREST DEVELOPMENT ROADS
 TEMPORARY ROADS
 UNIT BOUNDARY
 SETTING BOUNDARIES
 CLASS 1 STREAMS
 CLASS 2 STREAMS
 CLASS 3 STREAMS
 LANDINGS (NUMBERED)



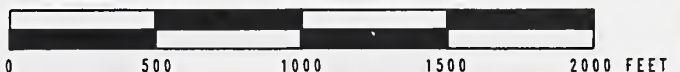
LAKES
 TTRA BUFFER FOR STREAMS/LAKES
 LAKE PROTECTION ZONE (TO 500')
 NORTH IRISH TIMBER SALE UNITS
 ELIGIBLE WILD AND SCENIC
 RIVER AREAS

LOGGING METHOD CODES: S = SHOVEL
 H = HELICOPTER C = CABLE
 P = CABLE/PARTIAL SUSPENSION

ID TEAM UNIT OBJECTIVE SUMMARY

Prescribed By: Brad Seaberg 5/21/93
 Silviculturist Date
 Reviewed By: David Chapin 5/21/93
 I.D. Team Leader Date
 FLIGHT LINE: 23 PHOTO#: 688-167

CONTOUR INTERVAL 100 FEET
 SCALE 1:7920 1 INCH = 660 FEET



Shamrock Timber Sale Unit Number: 47 Acres: 11 VCU: 436 ALT: 2, 3, 4, 5

DEVELOPMENT OF UNIT BOUNDARY

This unit is essentially the same unit originally planned. The unit is bounded by noncommercial forest land and muskeg on the north, east and south boundaries. The west boundary is a Class II stream channel.

RESOURCE CONFLICTS AND MITIGATIONS

Soil\Watershed\Fisheries

Conflict: Class II stream adjacent to west boundary of unit.
Mitigation: Unit boundary is located to provide a 100 foot no-cut buffer strip along Class II stream.

Wildlife\Biodiversity

Conflict: Harvesting could potentially remove snags important for cavity nesting birds.
Mitigation: Retain snags at an average rate of 1.5 per acre (75 percent hard and 25 percent soft). Concentrate snag density along south boundary of unit.

Wetlands

Conflicts: Much of the unit consists of forested wetland and unit is surrounded by wetland.
Mitigation: Minimize disturbance to wetlands located beyond unit boundaries.

DESCRIPTION OF UNIT ATTRIBUTES/OBJECTIVES

Road Development: (Rounded to nearest 0.1 mile)

0.0 Miles of Specified Road within Unit.
0.2 Miles of spur road anticipated.
2 Landings

Timber Attributes:

212 MBF Estimated total volume within unit (net sawlog)
19 Estimated volume per acre harvested within unit
Acres by Volume Class within unit:
5 Volume Class 4 (8-20 MBF/acre)
6 Volume Class 5 (20-30 MBF/acre)
Volume Class 6 (30-50 MBF/acre)
Volume Class 7 (50+ MBF/acre)

Stand Management Objectives: Even Age

Rotation Period: 100 years

Regeneration Method: Natural

Anticipated Treatments: Precommercial Thinning

Other Timber Considerations: None

PROPOSED ACTION OR DEVELOPMENT

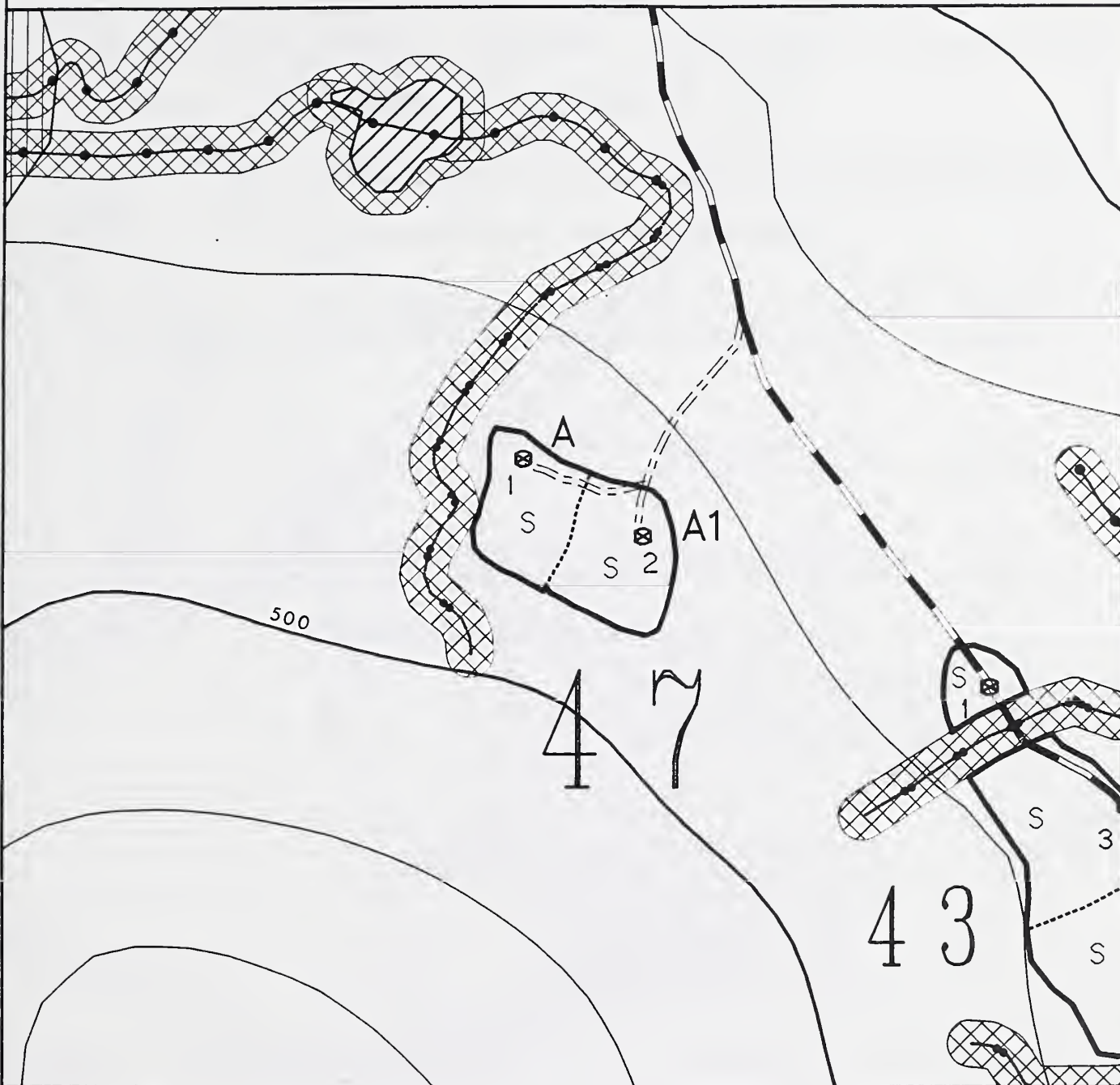
Shovel logging is recommended due to gentle slopes. Retain snags at an average rate of 1.5 per acre.

AREA: SHAMROCK

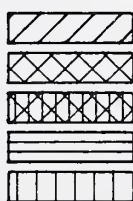
UNIT: 47

ACRES: 11

VCU: 436/429



FOREST DEVELOPMENT ROADS
 TEMPORARY ROADS
 UNIT BOUNDARY
 SETTING BOUNDARIES
 CLASS 1 STREAMS
 CLASS 2 STREAMS
 CLASS 3 STREAMS
 LANDINGS (NUMBERED)



LAKES
 TTRA BUFFER FOR STREAMS/LAKES
 LAKE PROTECTION ZONE (TO 500')
 NORTH IRISH TIMBER SALE UNITS
 ELIGIBLE WILD AND SCENIC
 RIVER AREAS

LOGGING METHOD CODES: S = SHOVEL
 H = HELICOPTER C = CABLE
 P = CABLE/PARTIAL SUSPENSION

ID TEAM UNIT OBJECTIVE SUMMARY

Prescribed By: Brad Seaberg 5/21/93
 Silviculturist Date
 Reviewed By: David Chapin 5/21/93
 I.D. Team Leader Date
 FLIGHT LINE: 23 PHOTO#: 688-167

CONTOUR INTERVAL 100 FEET
 SCALE 1:7920 1 INCH = 660 FEET



Shamrock Timber Sale Unit Number: 48 Acres: 66 VCU: 429 ALT: 2, 4, 5

DEVELOPMENT OF UNIT BOUNDARY

This unit is essentially the same unit originally planned. The southwest, south and east boundary are dictated by non-commercial forest land. The northwest boundary follows the Class II stream TTRA buffer.

RESOURCE CONFLICTS AND MITIGATIONS

Soil\Watershed\Fisheries

Conflict: Class II stream adjacent to northwest west boundary of unit.
Mitigation: Unit boundary is located to provide a 100 foot no-cut buffer strip along Class II stream.

Wildlife

Conflict: Unit contains marginal deer winter range.
Mitigation: Conflict is not mitigated.

Visual:

Conflict: Small portion of upper unit is visible from Tunehean Creek.
Mitigation: Individual trees will be left along setting boundaries and roads.

DESCRIPTION OF UNIT ATTRIBUTES/OBJECTIVES

Road Development: (Rounded to nearest 0.1 mile)

0.0 Miles of Specified Road within Unit.
0.3 Miles of spur road anticipated.
3 Landings

Timber Attributes:

1,284 MBF Estimated total volume within unit (net sawlog)
19 MBF Estimated volume per acre harvested within unit
Acres by Volume Class within unit:
29 Volume Class 4 (8-20 MBF/acre)
37 Volume Class 5 (20-30 MBF/acre)
Volume Class 6 (30-50 MBF/acre)
Volume Class 7 (50+ MBF/acre)

Stand Management Objectives: Even Age

Rotation Period: 100 years

Regeneration Method: Natural

Anticipated Treatments: Precommercial Thinning

Other Timber Considerations: None

PROPOSED ACTION OR DEVELOPMENT

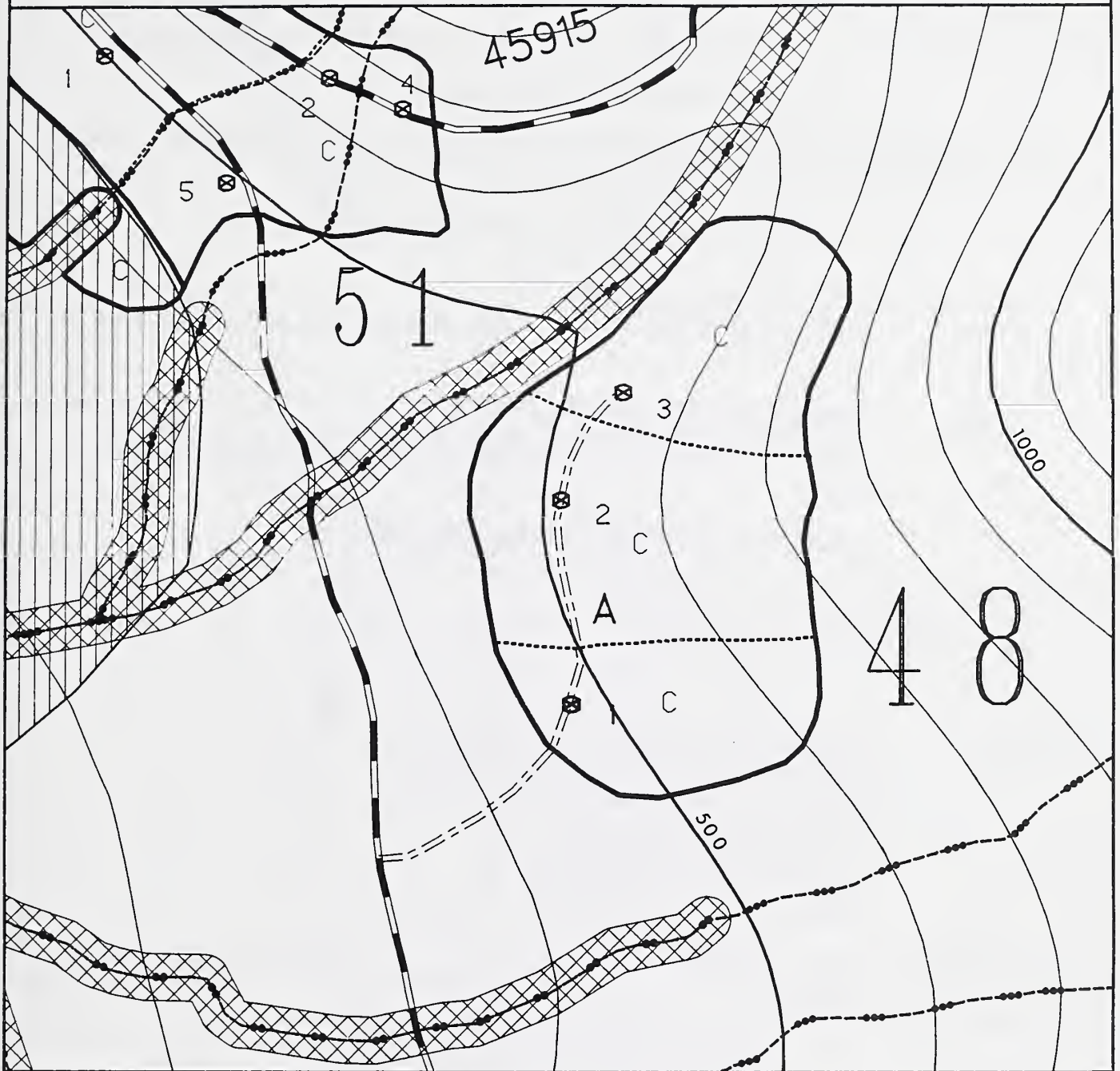
Unit is planned to be cable yarded to three landings located on a temporary spur road.

AREA: SHAMROCK

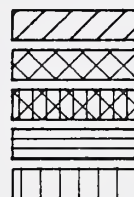
UNIT: 48

ACRES: 66

VCU: 429



FOREST DEVELOPMENT ROADS
TEMPORARY ROADS
UNIT BOUNDARY
SETTING BOUNDARIES
CLASS 1 STREAMS
CLASS 2 STREAMS
CLASS 3 STREAMS
LANDINGS (NUMBERED)



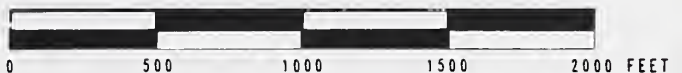
LAKES
TTRA BUFFER FOR STREAMS/LAKES
LAKE PROTECTION ZONE (TO 500')
NORTH IRISH TIMBER SALE UNITS
ELIGIBLE WILD AND SCENIC
RIVER AREAS

LOGGING METHOD CODES: S = SHOVEL
H = HELICOPTER C = CABLE
P = CABLE/PARTIAL SUSPENSION

ID TEAM UNIT OBJECTIVE SUMMARY

Prescribed By: Brad Seaberg 5/21/93
Silviculturist Date
Reviewed By: David Chapin 5/21/93
I.D. Team Leader Date
FLIGHT LINE: 24 PHOTO#: 688-226

CONTOUR INTERVAL 100 FEET
SCALE 1:7920 1 INCH = 660 FEET



Shamrock Timber Sale Unit Number: 50 Acres: 89 VCU: 429 ALT: 2, 3, 4, 5

DEVELOPMENT OF UNIT BOUNDARY

This unit is a result of combining two harvest units (50 and 44) considered during the preliminary planning stage. Noncommercial forest and muskeg comprise the west and east boundaries.

RESOURCE CONFLICTS AND MITIGATIONS

Soil

Conflict: Steep ground on upper slopes.
Mitigation: Require partial suspension for log yarding on slopes above (east) of Road 45800.

Wildlife

Conflict: Unit is located in deer migration corridor.
Mitigation: To partially mitigate this conflict, unit size was reduced during final layout of unit. Approximately 10 acres of the south portion of preliminary planned Unit 44 was deleted.

DESCRIPTION OF UNIT ATTRIBUTES/OBJECTIVES

Road Development: (Rounded to nearest 0.1 mile)

0.7 Miles of Specified Road within Unit.
0.0 Miles of spur road anticipated.
6 Landings

Timber Attributes:

1,410 MBF Estimated total volume within unit (net sawlog)
16 Estimated volume per acre harvested within unit
Acres by Volume Class within unit:
65 Volume Class 4 (8-20 MBF/acre)
24 Volume Class 5 (20-30 MBF/acre)
Volume Class 6 (30-50 MBF/acre)
Volume Class 7 (50+ MBF/acre)

Stand Management Objectives: Even Age

Rotation Period: 100 years

Regeneration Method: Natural

Anticipated Treatments: Precommercial Thinning

Other Timber Considerations: None

PROPOSED ACTION OR DEVELOPMENT

Unit is planned to be cable yarded to six landings. A skyline system is recommended to obtain partial suspension on the slopes east of Road 45800. A slackline system will be needed to yard the northern two settings, because of yarding distance.

AREA: SHAMROCK

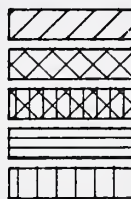
UNIT: 50

ACRES: 89

VCU: 429



FOREST DEVELOPMENT ROADS
TEMPORARY ROADS
UNIT BOUNDARY
SETTING BOUNDARIES
CLASS 1 STREAMS
CLASS 2 STREAMS
CLASS 3 STREAMS
LANDINGS (NUMBERED)



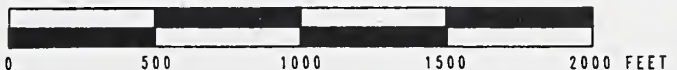
LAKES
TTRA BUFFER FOR STREAMS/LAKES
LAKE PROTECTION ZONE (TO 500')
NORTH IRISH TIMBER SALE UNITS
ELIGIBLE WILD AND SCENIC
RIVER AREAS

LOGGING METHOD CODES: S = SHOVEL
H = HELICOPTER C = CABLE
P = CABLE/PARTIAL SUSPENSION

ID TEAM UNIT OBJECTIVE SUMMARY

Prescribed By:	Brad Seaberg	5/21/93
	Silviculturist	Date
Reviewed By:	David Chapin	5/21/93
	I.D. Team Leader	Date
FLIGHT LINE:	22	PHOTO#: 688-122

CONTOUR INTERVAL 100 FEET
SCALE 1:7920 1 INCH = 660 FEET



DEVELOPMENT OF UNIT BOUNDARY

This unit is located around junction of Roads 6314 and 45915. A unit boundary adjustment was made to exclude Class II stream TTRA buffer. The west portion of unit is located within 0.25 mile of the Tunehean Creek, an eligible "Wild" river. This unit is in Alternative 2 only.

RESOURCE CONFLICTS AND MITIGATIONS

Soil\Watershed\Fisheries

- Conflict: Class III stream in unit grades to Class II stream approximately 600 feet southwest of Road 6314.
- Mitigation: Split yard Class III portion of stream. Unit boundary is located to provide a 100 foot no-cut buffer strip along Class II stream. Require directional falling and removal of logging debris from stream channel. Split yard Class III stream between landings 2 and 4.

Wildlife

- Conflict: Portions of unit contain marginal deer winter range habitat.
- Mitigation: This conflict is not mitigated.

Visual:

- Conflict: Small portion of upper unit is visible from Tunehean Creek.
- Mitigation: Individual trees will be left along setting boundaries and roads.

DESCRIPTION OF UNIT ATTRIBUTES/OBJECTIVES

Road Development: (Rounded to nearest 0.1 mile)

- 0.6 Miles of Specified Road within Unit.
- 0.0 Miles of spur road anticipated.
- 5 Landings

Timber Attributes:

- 1,000 MBF Estimated total volume within unit (net sawlog)
- 18 Estimated volume per acre harvested within unit
- Acres by Volume Class within unit:
- 34 Volume Class 4 (8-20 MBF/acre)
- 18 Volume Class 5 (20-30 MBF/acre)
- 3 Volume Class 6 (30-50 MBF/acre)
- Volume Class 7 (50+ MBF/acre)

Stand Management Objectives: Even Age

Rotation Period: 100 years

Regeneration Method: Natural

Anticipated Treatments: Precommercial Thinning

Other Timber Considerations: Monitor to determine adequate regeneration of Alaska-cedar.

PROPOSED ACTION OR DEVELOPMENT

Unit would be cable yarded to five landings. Split yard to avoid dragging logs across Class III stream would be necessary.



FOREST DEVELOPMENT ROADS

TEMPORARY ROADS

UNIT BOUNDARY

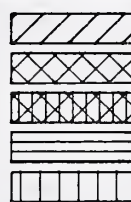
SETTING BOUNDARIES

CLASS 1 STREAMS

CLASS 2 STREAMS

CLASS 3 STREAMS

LANDINGS (NUMBERED)



LAKES

TTRA BUFFER FOR STREAMS/LAKES

LAKE PROTECTION ZONE (TO 500')

NORTH IRISH TIMBER SALE UNITS

ELIGIBLE WILD AND SCENIC
RIVER AREAS

ID TEAM UNIT OBJECTIVE SUMMARY

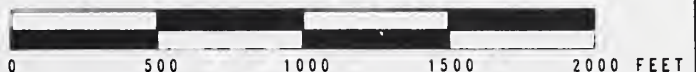
Prescribed By: Brad Seaberg 5/21/93
Silviculturist Date

Reviewed By: David Chapin 5/21/93
I.D. Team Leader Date

FLIGHT LINE: 24 PHOTO#: 688-225

LOGGING METHOD CODES: S = SHOVEL
H = HELICOPTER C = CABLE
P = CABLE/PARTIAL SUSPENSION

CONTOUR INTERVAL 100 FEET
SCALE 1:7920 1 INCH = 660 FEET



DEVELOPMENT OF UNIT BOUNDARY

This unit is located around junction of Roads 6314 and 45915. A unit boundary adjustment was made to exclude Class II stream TTRA buffer. This unit differs from Unit 51 by excluding the area within 0.25 miles of Tunehean Creek, an eligible "Wild" river. This unit is in Alternatives 4 and 5 only.

RESOURCE CONFLICTS AND MITIGATIONS

Soil\Watershed\Fisheries

Conflict: Class III stream in unit grades to Class II stream approximately 600 feet southwest of Road 6314.

Mitigation: Split yard Class III portion of stream. Unit boundary is located to provide a 100 foot no-cut buffer strip along Class II stream. Require directional falling and removal of logging debris from stream channel. Split yard Class III stream between landings 2 and 4.

Wildlife

Conflict: Portions of unit contain marginal deer winter range habitat.

Mitigation: This conflict is not mitigated.

Visual:

Conflict: Small portion of upper unit is visible from Tunehean Creek.

Mitigation: Individual trees will be left along setting boundaries and roads.

DESCRIPTION OF UNIT ATTRIBUTES/OBJECTIVES

Road Development: (Rounded to nearest 0.1 mile)

0.6 Miles of Specified Road within Unit.

0.0 Miles of spur road anticipated.

5 Landings

Timber Attributes:

801 MBF Estimated total volume within unit (net sawlog)

19 MBF Estimated volume per acre harvested within unit

Acres by Volume Class within unit:

26 Volume Class 4 (8-20 MBF/acre)

14 Volume Class 5 (20-30 MBF/acre)

3 Volume Class 6 (30-50 MBF/acre)

Volume Class 7 (50+ MBF/acre)

Stand Management Objectives: Even Age

Rotation Period: 100 years

Regeneration Method: Natural

Anticipated Treatments: Precommercial Thinning

Other Timber Considerations: Monitor to determine adequate regeneration of Alaska-cedar.

PROPOSED ACTION OR DEVELOPMENT

Unit would be cable yarded to 5 landings. Split yard to avoid dragging logs across Class III stream would be necessary.

AREA: SHAMROCK

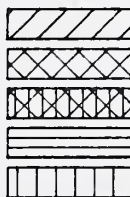
UNIT: 51M

ACRES: 43

VCU: 429



FOREST DEVELOPMENT ROADS
TEMPORARY ROADS
UNIT BOUNDARY
SETTING BOUNDARIES
CLASS 1 STREAMS
CLASS 2 STREAMS
CLASS 3 STREAMS
LANDINGS (NUMBERED)



LAKES
TTRA BUFFER FOR STREAMS/LAKES
LAKE PROTECTION ZONE (TO 500')
NORTH IRISH TIMBER SALE UNITS
ELIGIBLE WILD AND SCENIC
RIVER AREAS

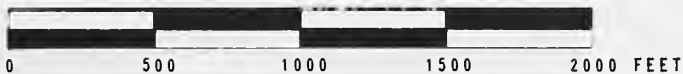
LOGGING METHOD CODES: S = SHOVEL
H = HELICOPTER C = CABLE
P = CABLE/PARTIAL SUSPENSION

ID TEAM UNIT OBJECTIVE SUMMARY

Prescribed By: Brad Seaberg 5/21/93
Silviculturist Date
Reviewed By: David Chapin 5/21/93
I.D. Team Leader Date

FLIGHT LINE: 24 PHOTO#: 688-225

CONTOUR INTERVAL 100 FEET
SCALE 1:7920 1 INCH = 660 FEET



Shamrock Timber Sale Unit Number: 52 Acres: 41 VCU: 429 ALT: 2, 4

DEVELOPMENT OF UNIT BOUNDARY

This unit is essentially unchanged from the preliminary planning stage. The unit is surrounded by noncommercial forest and muskeg.

RESOURCE CONFLICTS AND MITIGATIONS

Wildlife

Conflict: Portions of unit contain marginal deer winter range habitat.
Mitigation: This conflict is not mitigated.

DESCRIPTION OF UNIT ATTRIBUTES/OBJECTIVES

Road Development: (Rounded to nearest 0.1 mile)

0.0 Miles of Specified Road within Unit.
0.3 Miles of spur road anticipated.
3 Landings

Timber Attributes:

513 MBF Estimated total volume within unit (net sawlog)
12 MBF Estimated volume per acre harvested within unit
 Acres by Volume Class within unit:
41 Volume Class 4 (8-20 MBF/acre)
 Volume Class 5 (20-30 MBF/acre)
 Volume Class 6 (30-50 MBF/acre)
 Volume Class 7 (50+ MBF/acre)

Stand Management Objectives: Even Age

Rotation Period: 100 years

Regeneration Method: Natural

Anticipated Treatments: None

Other Timber Considerations: Monitor to determine adequate regeneration of Alaska-cedar.

PROPOSED ACTION OR DEVELOPMENT

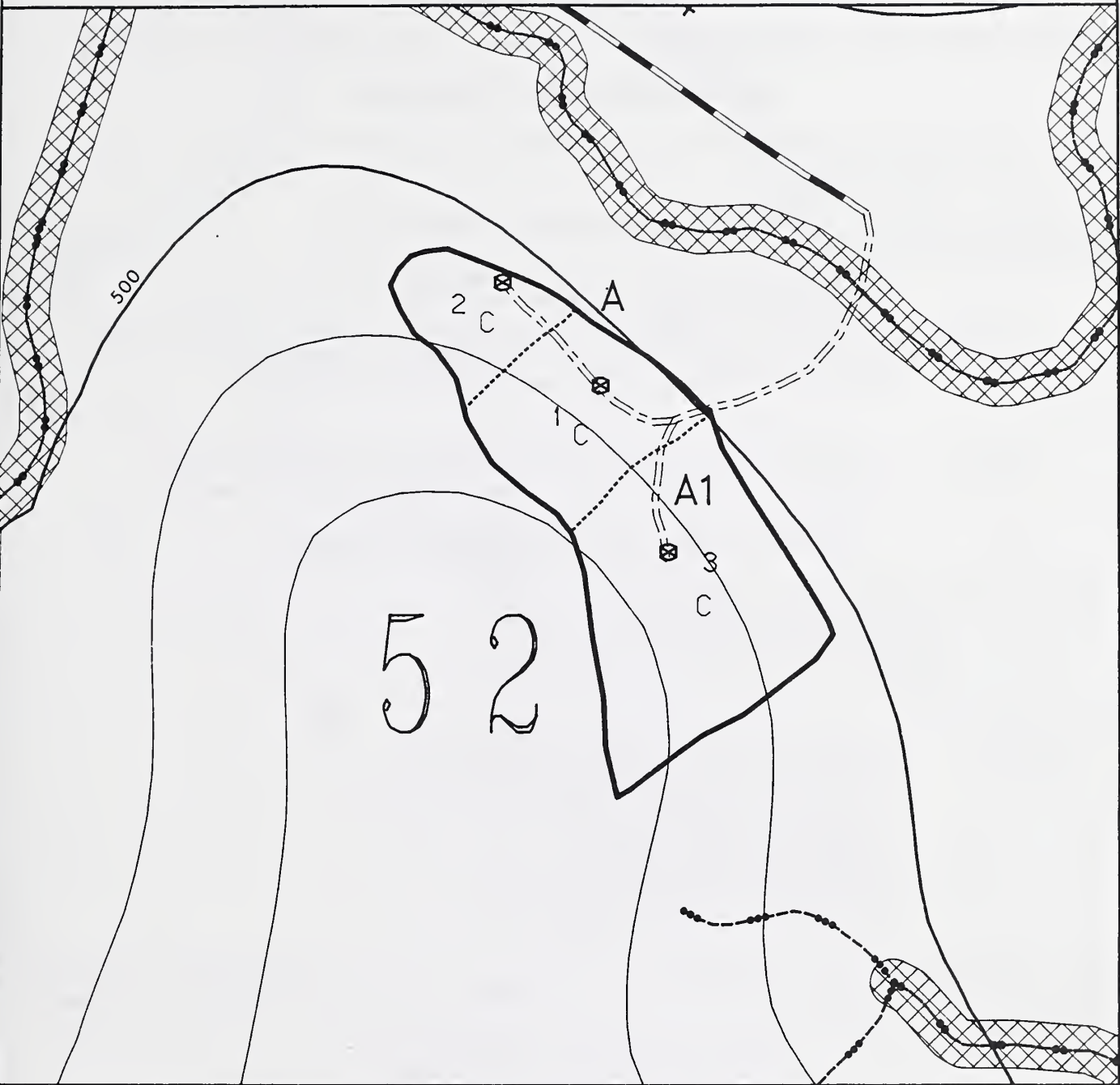
Unit would be cable yarded to 3 landings.

AREA: SHAMROCK

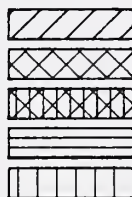
UNIT: 52

ACRES: 41

VCU: 429



FOREST DEVELOPMENT ROADS
TEMPORARY ROADS
UNIT BOUNDARY
SETTING BOUNDARIES
CLASS 1 STREAMS
CLASS 2 STREAMS
CLASS 3 STREAMS
LANDINGS (NUMBERED)



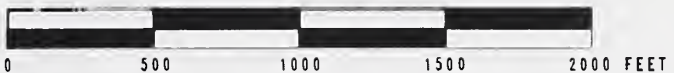
LAKES
TTRA BUFFER FOR STREAMS/LAKES
LAKE PROTECTION ZONE (TO 500')
NORTH IRISH TIMBER SALE UNITS
ELIGIBLE WILD AND SCENIC
RIVER AREAS

LOGGING METHOD CODES: S = SHOVEL
H = HELICOPTER C = CABLE
P = CABLE/PARTIAL SUSPENSION

ID TEAM UNIT OBJECTIVE SUMMARY

Prescribed By: Brad Seaberg 5/21/93
Silviculturist Date
Reviewed By: David Chapin 5/21/93
I.D. Team Leader Date
FLIGHT LINE: 24 PHOTO#: 688-228

CONTOUR INTERVAL 100 FEET
SCALE 1:7920 1 INCH = 660 FEET



Shamrock Timber Sale Unit Number: 54 Acres: 33 VCU: 429 ALT: 2, 3, 4, 5

DEVELOPMENT OF UNIT BOUNDARY

The unit is surrounded by noncommercial forest and muskeg on the north and west side of unit. The slope break forms the east boundary.

RESOURCE CONFLICTS AND MITIGATIONS

Wildlife/Biodiversity

- Conflict: Portions of this unit are located in marginal deer winter range habitat. Harvesting could remove snags used by cavity nesting birds.
- Mitigation: Retain snags at an average rate of 1.5 per acre (for a total of 8) in shovel logged ground west of Road 45803 to provide a legacy of old-growth forest and potential nest sites. Loss of marginal deer winter range habitat is not mitigated.

Wetlands

- Conflict: Wetland located in northwest corner of unit extends beyond unit boundary.
- Mitigation: Avoid unnecessary disturbance to wetlands located beyond unit boundary.

DESCRIPTION OF UNIT ATTRIBUTES/OBJECTIVES

Road Development: (Rounded to nearest 0.1 mile)

- 0.3 Miles of Specified Road within Unit.
- 0.2 Miles of spur road anticipated.
- 5 Landings

Timber Attributes:

- 512 MBF Estimated total volume within unit (net sawlog)
- 15 Estimated volume per acre harvested within unit
- Acres by Volume Class within unit:
- 27 Volume Class 4 (8-20 MBF/acre)
- 7 Volume Class 5 (20-30 MBF/acre)
- 0 Volume Class 6 (30-50 MBF/acre)
- Volume Class 7 (50+ MBF/acre)

Stand Management Objectives: Even Age

Rotation Period: 100 years

Regeneration Method: Natural

Anticipated Treatments: Precommercial Thinning

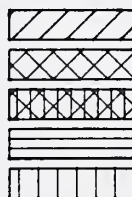
Other Timber Considerations: None

PROPOSED ACTION OR DEVELOPMENT

Unit would be cable yarded to 5 landings. There is a small area of gentle slopes that could be shovel logged west of Landing 3 and Road 45803.



FOREST DEVELOPMENT ROADS
 TEMPORARY ROADS
 UNIT BOUNDARY
 SETTING BOUNDARIES
 CLASS 1 STREAMS
 CLASS 2 STREAMS
 CLASS 3 STREAMS
 LANDINGS (NUMBERED)



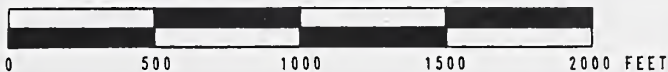
LAKES
 TTRA BUFFER FOR STREAMS/LAKES
 LAKE PROTECTION ZONE (TO 500')
 NORTH IRISH TIMBER SALE UNITS
 ELIGIBLE WILD AND SCENIC
 RIVER AREAS

LOGGING METHOD CODES: S = SHOVEL
 H = HELICOPTER C = CABLE
 P = CABLE/PARTIAL SUSPENSION

ID TEAM UNIT OBJECTIVE SUMMARY

Prescribed By: Brad Seaberg 5/21/93
 Silviculturist Date
 Reviewed By: David Chapin 5/21/93
 I.D. Team Leader Date
 FLIGHT LINE: 23 PHOTO#: 688-168

CONTOUR INTERVAL 100 FEET
 SCALE 1:7920 1 INCH = 660 FEET



DEVELOPMENT OF UNIT BOUNDARY

This unit was originally planned to extend over 100 acres. Unit size was reduced because of topography and lack of tailholds. Further modifications were made to due to the presence of Class II streams at the base of the unit.

RESOURCE CONFLICTS AND MITIGATIONS

Soil\Watershed\Fisheries

- Conflict: Class II streams are located adjacent to unit.
Mitigation: Unit boundary is located to provide a 100 foot no-cut buffer strip along Class II streams.
Conflict: Severe V-notches grade into Class II streams south and east of unit.
Mitigation: Require partial suspension to reduce ground disturbance; split yard away from Class II streams. Leave timber uncut between two Class III streams. Yard logs away from V-notches. Require directional falling and removal of logging debris from stream channel.

Visual

- Conflict: Upper portion of unit can be seen from Duncan Canal in the background distance zone and is in an inventoried VQO of partial retention. Unit exceeds TLMP VQO/VAC setting guidelines that call for small 10 acre clearcuts.
Mitigation: To reduce visual size of clearcut opening, leave area between two Class III streams will not be logged. VQOs of partial retention and modification will be met.

Wildlife\Biodiversity

- Conflict: Portions of unit are located in marginal deer winter range habitat.
Mitigation: Loss of habitat is not mitigated.

DESCRIPTION OF UNIT ATTRIBUTES/OBJECTIVES

Road Development: (Rounded to nearest 0.1 mile)

- 0.3 Miles of Specified Road within Unit.
0.0 Miles of spur road anticipated.
2 Landings

Timber Attributes:

- 2,072 MBF Estimated total volume within unit (net sawlog)
35 Estimated volume per acre harvested within unit
Acres by Volume Class within unit:
0 Volume Class 4 (8-20 MBF/acre)
24 Volume Class 5 (20-30 MBF/acre)
35 Volume Class 6 (30-50 MBF/acre)
Volume Class 7 (50+ MBF/acre)

Stand Management Objectives: Even Age

Rotation Period: 120 years

Regeneration Method: Natural

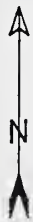
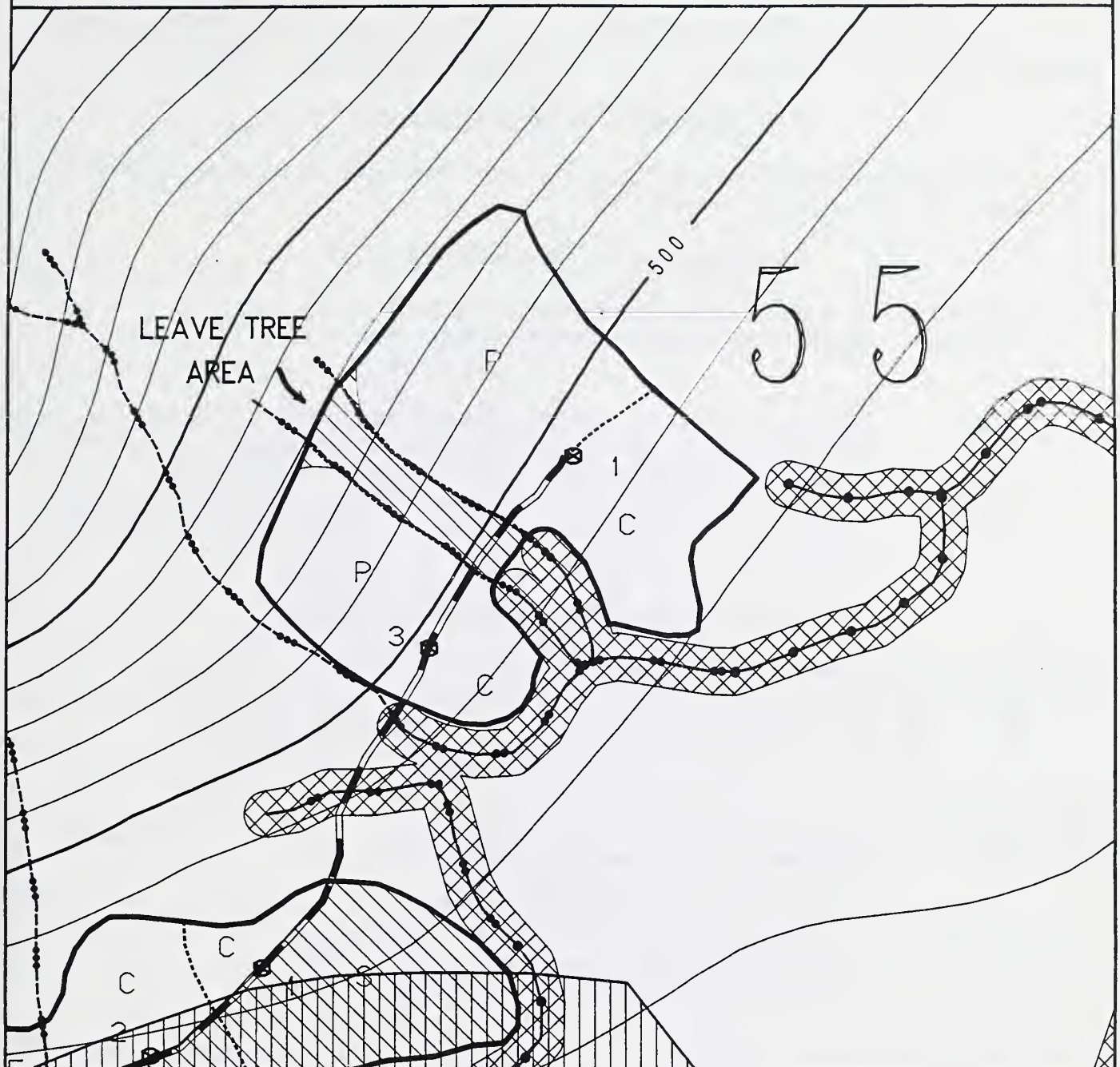
Anticipated Treatments: Precommercial Thinning

Other Timber Considerations: None

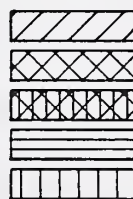
PROPOSED ACTION OR DEVELOPMENT

Unit would be cable yarded to 2 landings. A skyline system is recommended to yard those areas above Road 45805 to achieve partial suspension adjacent to V-notches. The area between the two Class III channels would be left unharvested.

LEAVE TREE
AREA



FOREST DEVELOPMENT ROADS
TEMPORARY ROADS
UNIT BOUNDARY
SETTING BOUNDARIES
CLASS 1 STREAMS
CLASS 2 STREAMS
CLASS 3 STREAMS
LANDINGS (NUMBERED)



LAKES
TTRA BUFFER FOR STREAMS/LAKES
LAKE PROTECTION ZONE (TO 500')
NORTH IRISH TIMBER SALE UNITS
ELIGIBLE WILD AND SCENIC
RIVER AREAS

LOGGING METHOD CODES: S = SHOVEL
H = HELICOPTER C = CABLE
P = CABLE/PARTIAL SUSPENSION

ID TEAM UNIT OBJECTIVE SUMMARY

Prescribed By: Brad Seaberg 5/21/93
Silviculturist Date
Reviewed By: David Chapin 5/21/93
I.D. Team Leader Date

FLIGHT LINE: 26 PHOTO#: 788-104

CONTOUR INTERVAL 100 FEET
SCALE 1:7920 1 INCH = 660 FEET



Shamrock Timber Sale Unit Number: 61 Acres: 113 VCU: 438 ALT: 2, 5

DEVELOPMENT OF UNIT BOUNDARY

The unit was originally planned to cover approximately 90 acres. Adjustments were made to configuration to make a logical unit boundary and not to isolate timber.

RESOURCE CONFLICTS AND MITIGATIONS

Soil

Conflict: Steep and broken topography exists in west portion of unit.
Mitigation: Require partial suspension to minimize surface disturbance.

Visual

Conflict: Unit exceeds VQO/VAC setting size guidelines (80 to 100 acres). Unit is in a modification and maximum modification VQOs and could be seen as background from Duncan Canal. Portions of the unit are also visible from Castle River.
Mitigation: Green trees will be retained at a target rate of 15 trees per acre in the northwest and central sections of the unit. Unit would meet the modification VQO when seen as background from Duncan Canal.

DESCRIPTION OF UNIT ATTRIBUTES/OBJECTIVES

Road Development: (Rounded to nearest 0.1 mile)

0.6 Miles of Specified Road within Unit.
0.3 Miles of spur road anticipated.
6 Landings

Timber Attributes:

1,929 MBF Estimated total volume within unit (net sawlog)
17 Estimated volume per acre harvested within unit
Acres by Volume Class within unit:
71 Volume Class 4 (8-20 MBF/acre)
42 Volume Class 5 (20-30 MBF/acre)
Volume Class 6 (30-50 MBF/acre)
Volume Class 7 (50+ MBF/acre)

Stand Management Objectives: Even Age

Rotation Period: 120 years

Regeneration Method: Natural

Anticipated Treatments: Precommercial Thinning

Other Timber Considerations: None

PROPOSED ACTION OR DEVELOPMENT

Unit would be cable yarded to 6 landings. To yard the settings in the west side of unit, a slackline skyline system is recommended to achieve partial suspension. A slackpulling carriage may be necessary to reduce damage to residual trees in green tree retention area.

AREA: SHAMROCK

UNIT: 61

ACRES: 438/436 VCU: 113

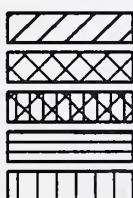
GREEN TREE
RETENTION

61

TREE
ION



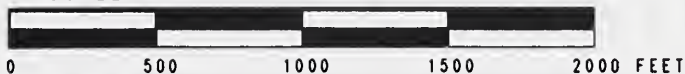
FOREST DEVELOPMENT ROADS
TEMPORARY ROADS
UNIT BOUNDARY
SETTING BOUNDARIES
CLASS 1 STREAMS
CLASS 2 STREAMS
CLASS 3 STREAMS
LANDINGS (NUMBERED)



LAKES
TTRA BUFFER FOR STREAMS/LAKES
LAKE PROTECTION ZONE (TO 500')
NORTH IRISH TIMBER SALE UNITS
ELIGIBLE WILD AND SCENIC
RIVER AREAS

LOGGING METHOD CODES: S = SHOVEL
H = HELICOPTER C = CABLE
P = CABLE/PARTIAL SUSPENSION

CONTOUR INTERVAL 100 FEET
SCALE 1:7920 1 INCH = 660 FEET



ID TEAM UNIT OBJECTIVE SUMMARY

Prescribed By: Brad Seaberg 6/23/95
Silviculturist Date

Reviewed By: David Chapin 6/23/95
I.D. Team Leader Date

FLIGHT LINE: 25 PHOTO#: 788-20

DEVELOPMENT OF UNIT BOUNDARY

The unit was originally planned to cover approximately 50 acres. Adjustments to unit size were made to exclude noncommercial forest land. Muskegs and noncommercial forest comprise the north and south boundaries.

RESOURCE CONFLICTS AND MITIGATIONS

Wetlands

Conflict: Muskeg located within unit is continuous with wetlands located beyond unit boundaries.

Mitigation: Avoid unnecessary disturbance to wetlands located beyond unit boundaries.

DESCRIPTION OF UNIT ATTRIBUTES/OBJECTIVES

Road Development: (Rounded to nearest 0.1 mile)

0.0 Miles of Specified Road within Unit.

0.4 Miles of spur road anticipated.

3 Landings

Timber Attributes:

499 MBF Estimated total volume within unit (net sawlog)

16 Estimated volume per acre harvested within unit

Acres by Volume Class within unit:

22 Volume Class 4 (8-20 MBF/acre)

9 Volume Class 5 (20-30 MBF/acre)

Volume Class 6 (30-50 MBF/acre)

Volume Class 7 (50+ MBF/acre)

Stand Management Objectives: Even Age

Rotation Period: 100 years

Regeneration Method: Natural

Anticipated Treatments: Precommercial Thinning

Other Timber Considerations: Monitor to ensure adequate regeneration of Alaska-cedar.

PROPOSED ACTION OR DEVELOPMENT

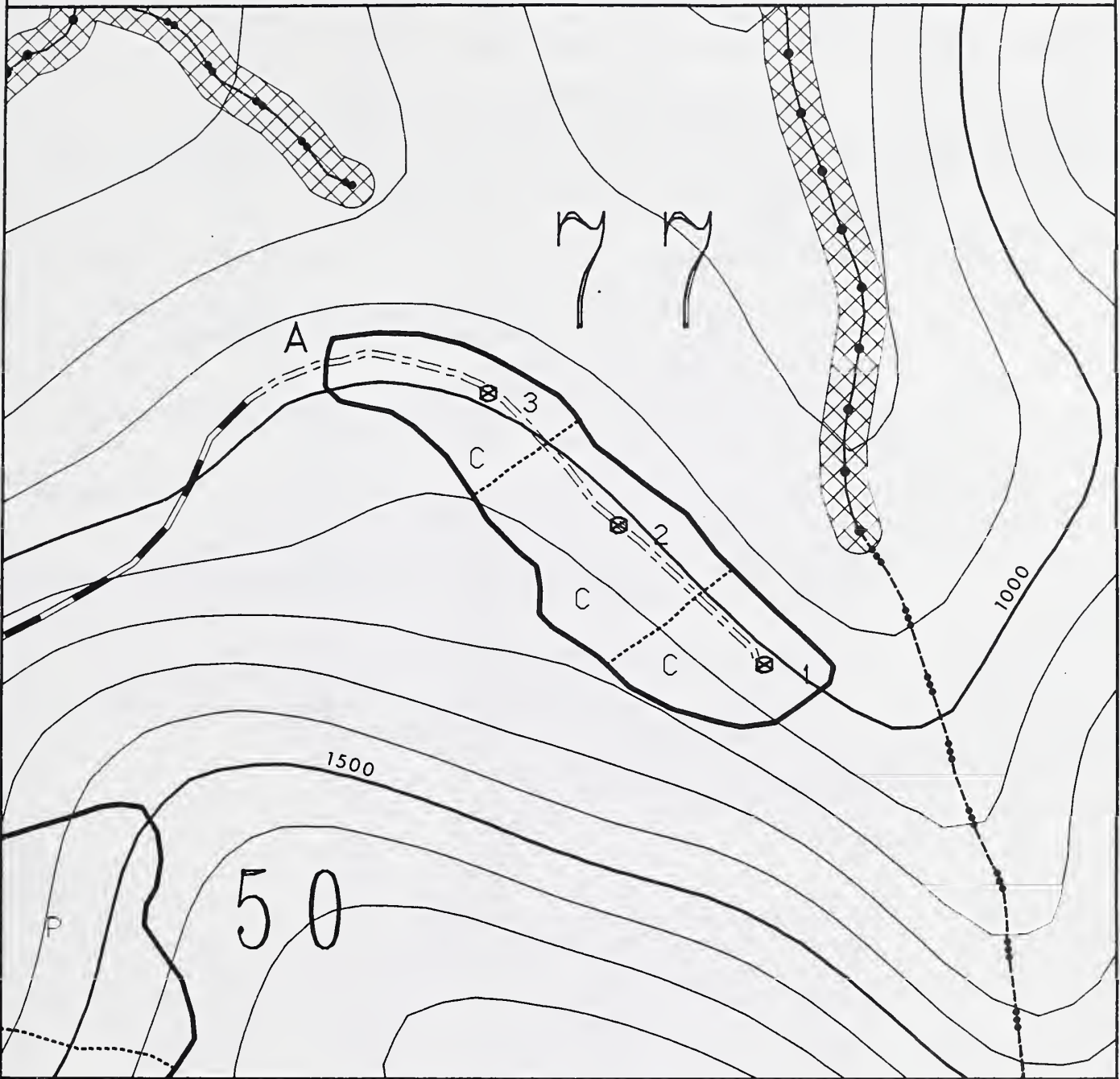
Unit would be cable yarded to 3 landings.

AREA: SHAMROCK

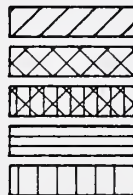
UNIT: 77

ACRES: 31

VCU: 429



FOREST DEVELOPMENT ROADS
TEMPORARY ROADS
UNIT BOUNDARY
SETTING BOUNDARIES
CLASS 1 STREAMS
CLASS 2 STREAMS
CLASS 3 STREAMS
LANDINGS (NUMBERED)



LAKES
TTRA BUFFER FOR STREAMS/LAKES
LAKE PROTECTION ZONE (TO 500')
NORTH IRISH TIMBER SALE UNITS
ELIGIBLE WILD AND SCENIC
RIVER AREAS

LOGGING METHOD CODES: S = SHOVEL
H = HELICOPTER C = CABLE
P = CABLE/PARTIAL SUSPENSION

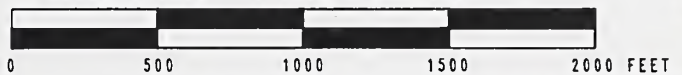
ID TEAM UNIT OBJECTIVE SUMMARY

Prescribed By: Brad Seaberg 5/21/93
Silviculturist Date

Reviewed By: David Chapin 5/21/93
I.D. Team Leader Date

FLIGHT LINE: 23 PHOTO#: 688-172

CONTOUR INTERVAL 100 FEET
SCALE 1:7920 1 INCH = 660 FEET



DEVELOPMENT OF UNIT BOUNDARY

The boundaries of this unit were determined by the presence of a landslide, Class II streams and muskeg/noncommercial forest land. Adjustments to final unit boundary were based on the presence of Class II streams. Portions of this unit are located within 0.25 miles of the Castle River, an eligible "Wild" river.

RESOURCE CONFLICTS AND MITIGATIONS

Soil\Watershed\Fisheries

Conflict: Class III stream grades to a Class I stream below Road 45804 between Landings 3 and 5.

Mitigation: Exclude Class I stream TTRA buffer from unit; Split yard two Class III streams between Landings 3, 5 and 2. Require directional falling and removal of logging debris from Class III stream channels.

Conflict: Unstable slopes above landings 3 and 4.

Mitigation: Require partial suspension on slopes above Landings 3 and 4 to minimize surface disturbance. Do not disturb debris jam above landing #5.

Wildlife\Biodiversity

Conflict: Portions of unit are located in marginal deer winter range habitat. Clearcut harvesting could alter habitat and remove snags used for cavity nesting birds.

Mitigation: Retain 5 green trees per acre and 1.5 snags per acre (total of 70) along south boundary of unit in areas to provide potential nest sites. Loss of marginal deer winter range habitat is not mitigated.

Visual

Conflict: Unit size will exceed 60 acres and is visible from small plane route.

Mitigation: Retain a target of 15 green trees per acre in shovel ground below Road 45804 to partially mitigate this conflict. Some clumping of leave trees may be necessary.

DESCRIPTION OF UNIT ATTRIBUTES/OBJECTIVES

Road Development: (Rounded to nearest 0.1 mile)

0.6 Miles of Specified Road within Unit.

0.01 Miles of spur road anticipated.

5 Landings

Timber Attributes:

1,692 MBF Estimated total volume within unit (net sawlog)

25 Estimated volume per acre harvested within unit

Acres by Volume Class within unit:

16 Volume Class 4 (8-20 MBF/acre)

34 Volume Class 5 (20-30 MBF/acre)

18 Volume Class 6 (30-50 MBF/acre)

Volume Class 7 (50+ MBF/acre)

Stand Management Objectives: Even Age

Rotation Period: 100 years

Regeneration Method: Natural

Anticipated Treatments: Precommercial Thinning

Other Timber Considerations: None

PROPOSED ACTION OR DEVELOPMENT

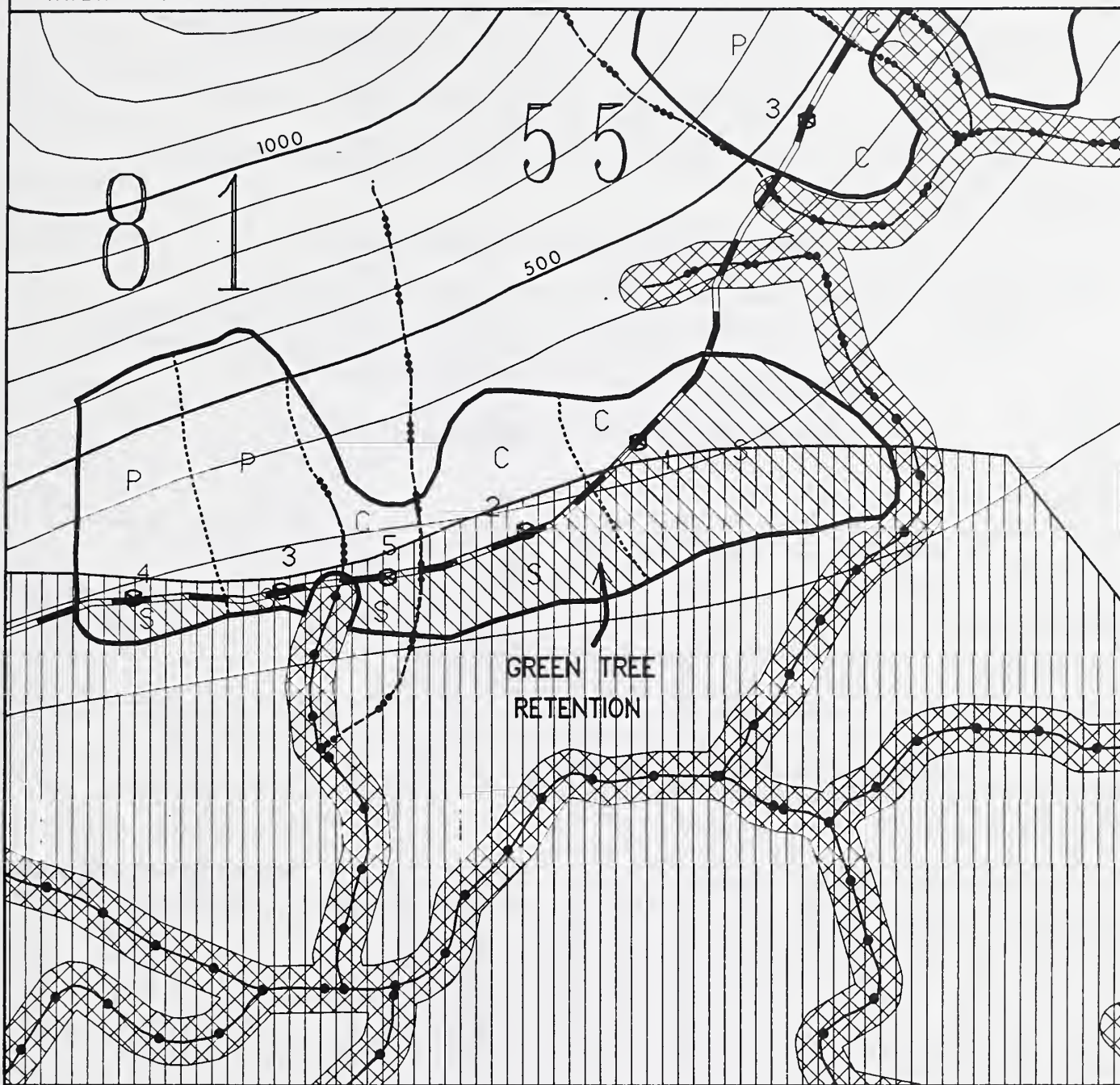
Unit would be cable yarded to 5 landings. A skyline system is recommended to achieve partial suspension in the slopes above Landings 3 and 4. Split-yard two Class III streams to avoid sediment input to streams. A short 100 foot spur will be needed to access a bench where Landing 3 would be located. Area south of road could be shovel logged where green tree retention is prescribed.

AREA: SHAMROCK

UNIT: 81

ACRES: 68

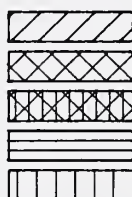
VCU: 436



GREEN TREE
RETENTION



FOREST DEVELOPMENT ROADS
TEMPORARY ROADS
UNIT BOUNDARY
SETTING BOUNDARIES
CLASS 1 STREAMS
CLASS 2 STREAMS
CLASS 3 STREAMS
LANDINGS (NUMBERED)



LAKES
TTRA BUFFER FOR STREAMS/LAKES
LAKE PROTECTION ZONE (TO 500')
NORTH IRISH TIMBER SALE UNITS
ELIGIBLE WILD AND SCENIC
RIVER AREAS

LOGGING METHOD CODES: S = SHOVEL
H = HELICOPTER C = CABLE
P = CABLE/PARTIAL SUSPENSION

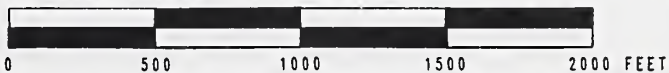
ID TEAM UNIT OBJECTIVE SUMMARY

Prescribed By: Brad Seaberg 5/21/93
Silviculturist Date

Reviewed By: David Chapin 5/21/93
I.D. Team Leader Date

FLIGHT LINE: 25 PHOTO#: 788-18

CONTOUR INTERVAL 100 FEET
SCALE 1:7920 1 INCH = 660 FEET



DEVELOPMENT OF UNIT BOUNDARY

Class III stream on the west side of unit and non-commercial forest on the south and east side of unit governed unit boundary location.

RESOURCE CONFLICTS AND MITIGATIONS

Soil\Watershed\Fisheries

Conflict: Class III stream on west side of unit grades into Class I stream.

Mitigation: Unit boundary is located to provide a 100 foot no-cut buffer strip along Class I stream. Yard logs away from Class III stream. Require directional falling and removal of logging debris from Class III stream channel.

DESCRIPTION OF UNIT ATTRIBUTES/OBJECTIVES

Road Development: (Rounded to nearest 0.1 mile)

0.3 Miles of Specified Road within Unit.

0.0 Miles of spur road anticipated.

3 Landings

Timber Attributes:

635 MBF Estimated total volume within unit (net sawlog)
23 Estimated volume per acre harvested within unit
Acres by Volume Class within unit:
3 Volume Class 4 (8-20 MBF/acre)
24 Volume Class 5 (20-30 MBF/acre)
0 Volume Class 6 (30-50 MBF/acre)
Volume Class 7 (50+ MBF/acre)

Stand Management Objectives: Even Age

Rotation Period: 100 years

Regeneration Method: Natural

Anticipated Treatments: Precommercial Thinning

Other Timber Considerations: None

PROPOSED ACTION OR DEVELOPMENT

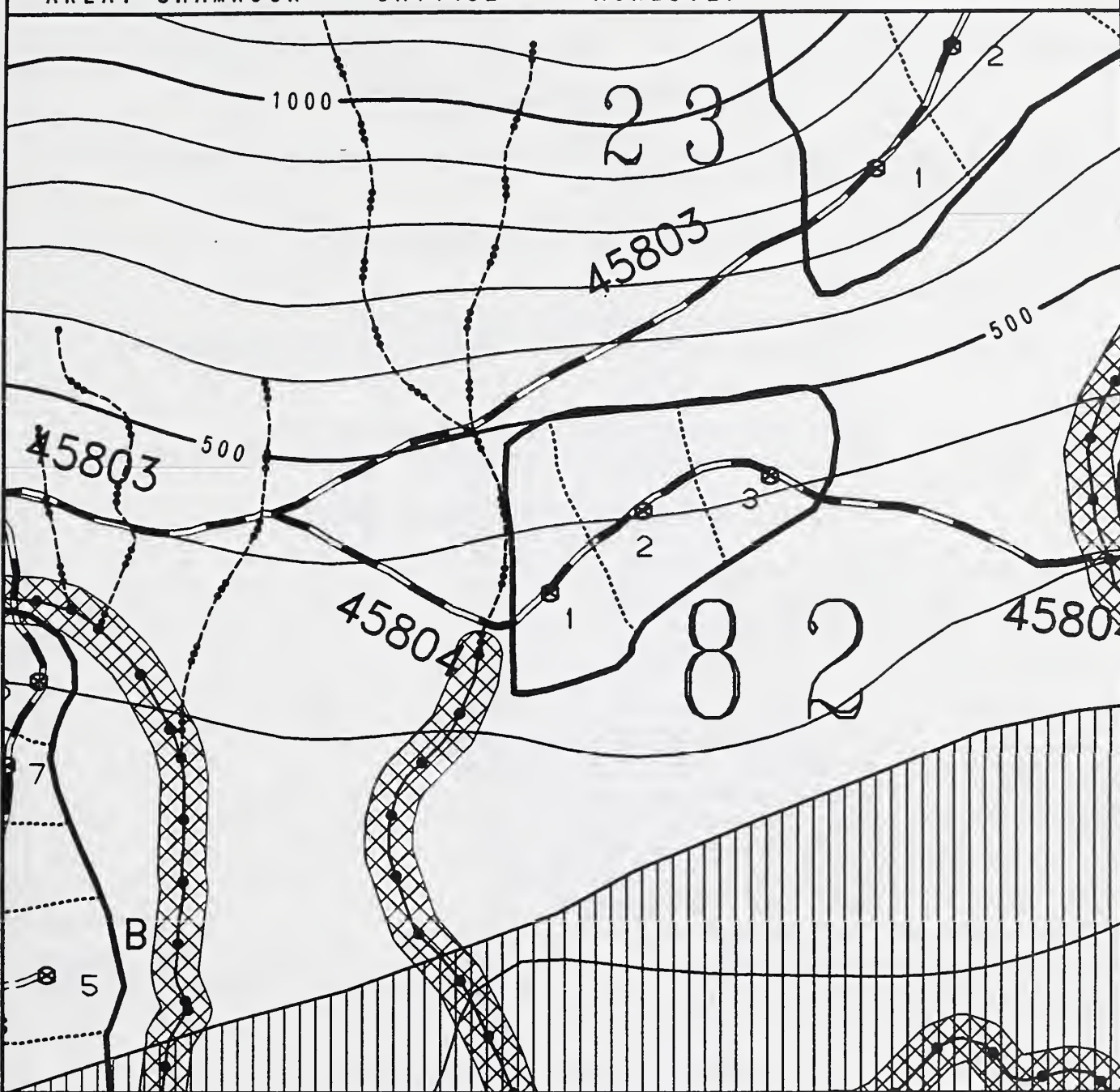
Unit would be cable yarded to 3 landings. Landings would be located on flat areas between minor drainages to avoid adverse downstream water quality effects.

AREA: SHAMROCK

UNIT: 82

ACRES: 27

VCU: 436



FOREST DEVELOPMENT ROADS

TEMPORARY ROADS

UNIT BOUNDARY

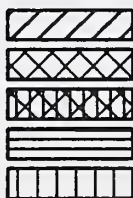
SETTING BOUNDARIES

CLASS 1 STREAMS

CLASS 2 STREAMS

CLASS 3 STREAMS

LANDINGS (NUMBERED)



LAKES

TTRA BUFFER FOR STREAMS/LAKES

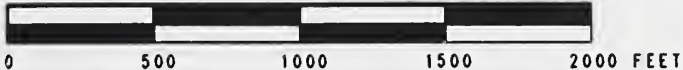
LAKE PROTECTION ZONE (TO 500')

NORTH IRISH TIMBER SALE UNITS

ELIGIBLE WILD AND SCENIC
RIVER AREAS

LOGGING METHOD CODES: S = SHOVEL
H = HELICOPTER C = CABLE
P = CABLE/PARTIAL SUSPENSION

CONTOUR INTERVAL 100 FEET
SCALE 1:7920 1 INCH = 660 FEET



ID TEAM UNIT OBJECTIVE SUMMARY

Prescribed By: Brad Seaberg 5/09/95

Silviculturist Date

Reviewed By: David Chapin 5/09/95

I.D. Team Leader Date

FLIGHT LINE: 24

PHOTO#: 688-221

DEVELOPMENT OF UNIT BOUNDARY

Boundaries were determined by the presence of noncommercial forest and muskeg on the west and east boundaries and a Class III stream on the south boundary.

RESOURCE CONFLICTS AND MITIGATIONS

Soil\Watershed\Fisheries

Conflict: Class I stream is located adjacent to east unit boundary.

Mitigation: Unit boundary is located to provide a 100 foot no-cut buffer strip along Class I stream.

Wetlands

Conflict: Located within unit and extends beyond unit boundaries.

Mitigation: Avoid unnecessary disturbance of wetland located beyond unit boundaries.

DESCRIPTION OF UNIT ATTRIBUTES/OBJECTIVES

Road Development: (Rounded to nearest 0.1 mile)

0.8 Miles of Specified Road within Unit.

0.1 Miles of spur road anticipated.

8 Landings

Timber Attributes:

1,009 MBF Estimated total volume within unit (net sawlog)

23 MBF Estimated volume per acre harvested within unit

Acres by Volume Class within unit:

7 Volume Class 4 (8-20 MBF/acre)

37 Volume Class 5 (20-30 MBF/acre)

0 Volume Class 6 (30-50 MBF/acre)

Volume Class 7 (50+ MBF/acre)

Stand Management Objectives: Even Age

Rotation Period: 100 years

Regeneration Method: Natural

Anticipated Treatments: Precommercial Thinning

Other Timber Considerations: None

PROPOSED ACTION OR DEVELOPMENT

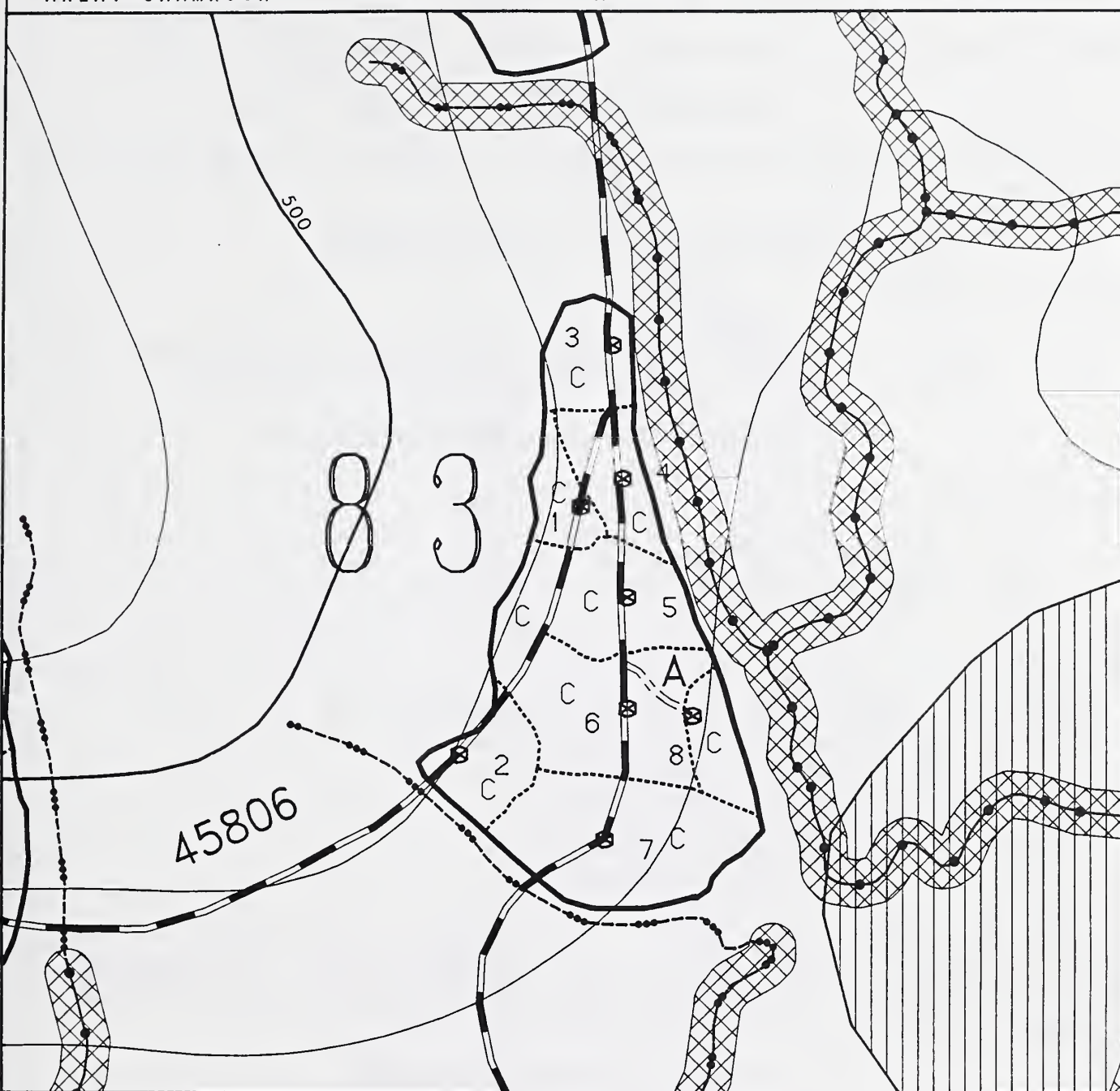
Unit would be cable yarded to 8 landings. Although cable logging is indicated as logging system, there are small flat areas that could be shovel logged by agreement between the Forest Service and Purchaser.

AREA: SHAMROCK

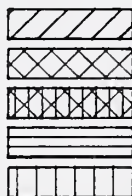
UNIT: 83

ACRES: 44

VCU: 436



FOREST DEVELOPMENT ROADS
TEMPORARY ROADS
UNIT BOUNDARY
SETTING BOUNDARIES
CLASS 1 STREAMS
CLASS 2 STREAMS
CLASS 3 STREAMS
LANDINGS (NUMBERED)



LAKES
TTRA BUFFER FOR STREAMS/LAKES
LAKE PROTECTION ZONE (TO 500')
NORTH IRISH TIMBER SALE UNITS
ELIGIBLE WILD AND SCENIC
RIVER AREAS

LOGGING METHOD CODES: S = SHOVEL
H = HELICOPTER C = CABLE
P = CABLE/PARTIAL SUSPENSION

ID TEAM UNIT OBJECTIVE SUMMARY

Prescribed By: Brad Seaberg 5/21/93
Silviculturist Date
Reviewed By: David Chapin 5/21/93
I.D. Team Leader Date
FLIGHT LINE: 23 PHOTO#: 688-167

CONTOUR INTERVAL 100 FEET
SCALE 1:7920 1 INCH = 660 FEET



DEVELOPMENT OF UNIT BOUNDARY

This unit was part of the defaulted North Irish Timber Sale and was planned to be harvested under the North Irish Reoffer.

RESOURCE CONFLICTS AND MITIGATIONS

Water Quality/Fisheries

Conflict: Class II stream is located in close proximity to north unit boundary.
Mitigation: Locate unit boundary to exclude 100 foot TTRA buffer strip.

DESCRIPTION OF UNIT ATTRIBUTES/OBJECTIVES

Road Development: (Rounded to nearest 0.1 mile)

1.0 Miles of Specified Road within Unit.
0.5 Miles of spur road anticipated.
9 Landings

Timber Attributes:

2,343 MBF Estimated total volume within unit (net sawlog)
21 MBF Estimated volume per acre harvested within unit
110 Acres by Volume Class within unit:
100 Volume Class 4 (8-20 MBF/acre)
10 Volume Class 5 (20-30 MBF/acre)
Volume Class 6 (30-50 MBF/acre)
Volume Class 7 (50+ MBF/acre)

Stand Management Objectives: Even Age Rotation Period: 100 years
Regeneration Method: Natural Anticipated Treatments: Precommercial Thinning
Other Timber Considerations: Monitor to insure Sitka spruce and Alaska-cedar regeneration because of competing vegetation.

PROPOSED ACTION OR DEVELOPMENT

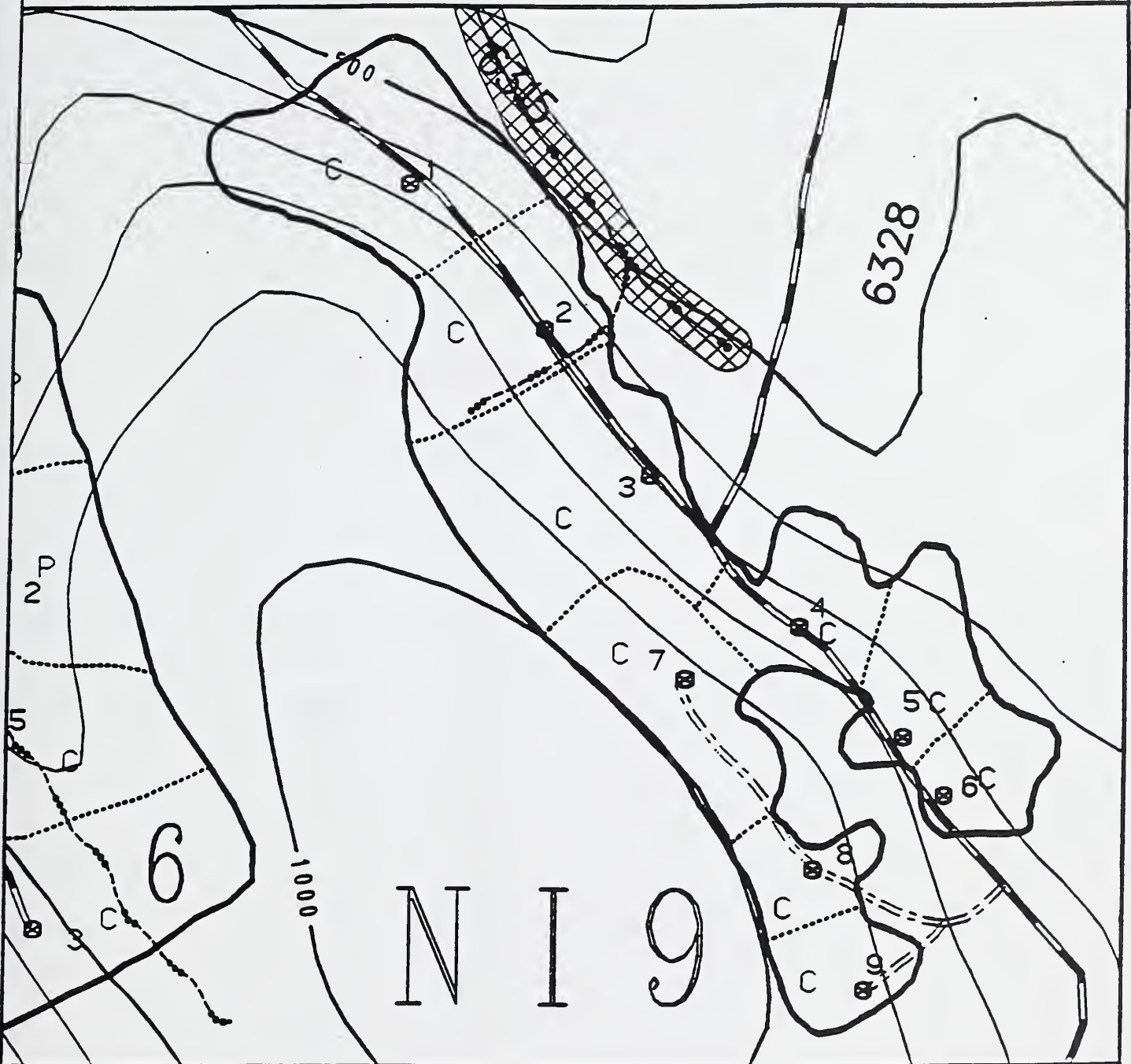
Unit is planned for highlead yarding to nine landings. Shovel yarding is allowed in areas having a slope of 20 percent or less and good drainage.

AREA: SHAMROCK

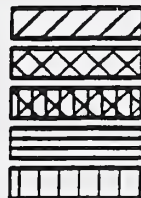
UNIT: NI9

ACRES: 100

VCU: 429



FOREST DEVELOPMENT ROADS
TEMPORARY ROADS
UNIT BOUNDARY
SETTING BOUNDARIES
CLASS 1 STREAMS
CLASS 2 STREAMS
CLASS 3 STREAMS
LANDINGS (NUMBERED)



LAKES
TTRA BUFFER FOR STREAMS/LAKES
LAKE PROTECTION ZONE (TO 500')
NORTH IRISH TIMBER SALE UNITS
ELIGIBLE WILD AND SCENIC
RIVER AREAS

LOGGING METHOD CODES: S = SHOVEL
H = HELICOPTER C = CABLE
P = CABLE/PARTIAL SUSPENSION

ID TEAM UNIT OBJECTIVE SUMMARY

Prescribed By: Brad Seabera
Silviculturist Date

Reviewed By: David Chapin
J.D. Team Leader Date

FLIGHT LINE: PHOTO#:

CONTOUR INTERVAL 100 FEET
SCALE 1:7920 1 INCH = 660 FEET



Appendix B

Road Descriptions

Appendix B

Road Descriptions

The following is a summary of the interdisciplinary team (IDT) field location and analysis of the proposed road segments in each of the action alternatives (2, 3, 4 and 5) discussed in the EIS. These descriptions are not "road cards," but a description of each road segment based on information gathered during the field reconnaissance conducted between April and August 1992. These descriptions would be used during the layout and harvest of units, and survey and construction of the roads in the selected alternative.

A map showing the entire planned road network and five larger scale maps showing a more detailed layout of the roads are found at the end of the Appendix. The map number(s) for each road segment is shown in the upper right. Critical areas are identified, where conditions required the use of special construction measures. These areas are referenced between the maps and road descriptions using a sequential numbering system (CA-1, CA-2, etc.). Since publication of the DEIS, some critical areas were removed by rerouting of roads (e.g., CAs 5 and 8 on 45803), but numbering of critical areas was left as in the DEIS.

Each road description shows where construction activities would need to be restricted to prevent damage to fisheries. Timing restrictions only apply to in-stream work where water quality standards would not be compromised. Present guidance from ADF&G (Cornelius, 1993) is to restrict instream work from July 15 through the following May 15 in spawning areas for pink and chum salmon; from August 1 through the following June 15 in spawning areas for coho salmon and from March 1 through the following July 18 in spawning areas for steelhead and anadromous cutthroat trout. Since all harvesting and road construction activities in the Shamrock area are well away from areas where chum and pink salmon spawn, only timing restrictions specific to coho salmon, steelhead, and anadromous cutthroat would apply to the roads described here. "Timing Windows" to allow instream construction of crossings would then be July 18 to August 1 in Class I streams since coho salmon, steelhead, and anadromous cutthroat trout likely occur in all Class I streams potentially affected by harvesting and road construction.

Closures would apply to in-stream construction activities on Class I streams and on Class II and III streams that are within 0.25 miles of potential spawning areas. Deviation from this timing window would require consultation with ADF&G. Special mitigation measures would be applied while operating in these streams during "timing windows." These measures could include placing silt fences adjacent to culverts to adsorb the sediment input, using bottomless arches or bridges, and reducing the crossing of the stream by construction equipment to the minimum while placing the culvert. BMP 14.6 would apply.

All Class I streams will require salmon fry passage through the structures, and all Class II streams will require the passage of resident fish. Preliminary engineering recommendations have been made for drainage structures at stream crossings, however, final structure design will depend on cost as well as meeting resource objectives.

The descriptions of Roads 6314 and 6328 are of those segments that would be constructed as a result of implementing the action alternatives in the EIS. Road 6328 commences from the end of construction at the end landing in unit 36 of the North Irish Timber Sale. Road 6314 is constructed to a point approximately 6.9 miles north of the start of the Shamrock area. The commencement of this road for analysis in this report is at the junction of Roads 6328 and 6314. This road junction (0.0 mile for this report) is 19.4 miles from the Little Hamilton Bay Log Transfer Facility (LTF). A visual inspection of arterial Roads 6314 and 6328 was undertaken from the Little Hamilton Bay LTF to the end of construction, resulting in no areas or sections requiring resurfacing or relocating.

In addition to the following Planned Road Descriptions, more detailed information is found on the Road Design Cards found in the Shamrock planning file. Road Design Cards cover specific portions of each road. IDT members have listed areas of concern, management objectives, and mitigation measures. In addition, road descriptions of possible temporary and spur roads are included in the Road Design Cards.

The following terms and their associated definitions are displayed for each road description:

Functional Class: Defines the level of use or function of each road.

Local: A forest road that connects a landing or temporary spur roads with forest collector, forest arterial, or public highways. Usually forest local roads are single purpose transportation facilities and can either be long or short term in nature.

Collector: A forest road that serves smaller land areas than an arterial road. Usually connects forest arterial roads to forest local roads or terminal facilities.

Arterial: A forest road that provides service to large land areas and usually connects with other arterial roads or public highways.

Entry Cycle: Defines the timing of use anticipated over a road.

Constant: Use is continuous over several years.

Intermittent: Use is confined to a specific activity such as the harvest of one unit or a group of units.

Traffic Service Level: Describes a road's significant traffic characteristics and operating conditions. The levels reflect a number of factors, such as speed, travel time, traffic interruptions, freedom to maneuver, safety, driver comfort, convenience, and operating costs. The factors, in turn, affect design elements such as number of lanes, turnout spacing, lane widths, type of driving surface, sight distances, design speed, clearance, horizontal and vertical alignment, curve widening, and turnarounds.

Level A: Reflects transportation efficiency and mobility with few interruptions to flow and a stable smooth driving surface.

Level B: Generally would have alignments more influenced by topography, more interruptions but still usually a stable smooth driving surface.

Level C: Alignment is likely to be more sinuous to reduce construction costs with a surface that may or may not be stable under all traffic or weather conditions.

Level D: Roads are generally constructed for a single purpose, and traffic is discouraged for other purposes; surface is rough and irregular; very low speeds are anticipated to be able to safely negotiate the road.

Design Speed: Design speed relates to the maximum speed that can be safely negotiated by vehicle. Low design speeds indicate more curves, steeper grades, and less turnouts than indicated by a high design speed.

Design Vehicle: This indicates the vehicle that the road is designed to accommodate. For instance, passenger vehicles would require a smoother running surface than a log truck.

Critical Vehicle: This generally indicates the largest type of vehicle or equipment that would be using a road. Because of size and turning capabilities, the critical vehicle governs the road width, the amount of curve widening and the minimum curve radius. A lowboy will require a larger curve radius and more curve widening than a mobile yarder or logging truck.

Highway Safety Act: Roads subject to the Highway Safety Act generally include Level C roads that will be open to the public during and following harvesting. The Highway Safety Act requires appropriate signing on forest roads.

Maintenance Levels: Defines the level of service provided by, and maintenance required for, a specific road, consistent with management objectives and maintenance criteria:

Level 1: Assigned to intermittent service roads during the time they are closed to vehicular traffic. The closure period is one year or longer. Basic custodial maintenance is performed.

Level 2: Assigned to roads open for use by high clearance vehicles. Passenger car traffic is not a consideration.

Level 3: Assigned to roads open and maintained for travel by a prudent driver in a standard passenger car. User comfort and convenience are not considered priority.

PLANNED ROAD DESCRIPTION

PROJECT NAME: Shamrock EIS MGT AREA: S11/S13 VCU: 429/438/436 MAP #: 1-5
ROAD NUMBER: 6314 FUNCTIONAL CLASS: Collector ENTRY CYCLE: Constant
LENGTH: 15.34 miles TRAFFIC SERVICE LEVEL: C DESIGN SPEED: 25 mph
TERMINI: S.12, T59S, R75E; S.8, T61S, R76E DESIGN VEHICLE: Passenger vehicle
CRITICAL VEHICLE: Lowboy HIGHWAY SAFETY ACT: Yes
MAINTENANCE LEVELS: (ACTIVE SALE) 3 POST SALE: 3

INTENDED PURPOSE:

This road would provide the major access for most of the harvest units within the proposed Shamrock Timber Sale. This road would connect the Shamrock sale area with the North Irish Timber Sale road system, the Little Hamilton Bay LTF, and the community of Kake. This road system would also give access to the Castle River, Irish/Keku River and Tunehean River Valleys.

CRITICAL AREAS:

A major area of concern is located between Mile 4.38 and Mile 4.66 (CA-1) where the road is located through a riparian area to the south of a lake. The terrain is composed of muskeg and several Class II and III creeks. Road construction through this portion would require rock overlay techniques with numerous drainage structures to prevent siltation and detriment to water quality and fish habitat (BMPs 12.6, 12.6a, 14.6, 14.10, and 14.17)

A second area of concern is the location of a creek crossing at Mile 14.03 (CA-2). This is an ephemeral creek with a 14 foot wide bed and no water flow during the summer months. The exact location of this crossing will be evaluated based on conditions during final survey.

ROCK BORROW SITES:

There are few potential rock quarry sites along this road. Possible quarry sites were noted at the following locations on or adjacent to Road 6314:

- R5: Station 302+10 (North Irish Timber Sale) (0.14 miles north of start of Shamrock EIS)
- R6: Station 345+30 - 0.68 mile
- R7: Station 367+95 - 1.11 mile
- R8: Station 450+95 (outcrop 75' left) - 2.68 mile
- R9: Station 738+50 - 8.12 mile
- R11: Station 756+50 - 8.46 mile
- R12: Station 762+76 - 8.58 mile
- R13: Station 865+09 - 10.52 mile
- R14: Station 939+70 - 11.93 mile
- R15: Station 948+10 - 12.09 mile

A large rock quarry would be required at Mile 8.12 location or in the area of the Road 45806 junction since no rock was observed south of that location. It could be possible to develop a small quarry near the Junction of Road 45915 or develop a gravel pit in an outwash fan in Unit 40. Coordination with the landscape architect on these possible sites is advised due to the visibility from the travelled road system.

The quarry site either on Road 45806 or Road 6314 (Site R9) near that road junction could be developed into a recreational vehicle site or parking lot for persons seeking access to the Irish Lakes or Tunehean River areas for resource management, subsistence, hunting, fishing or recreational use.
Apply BMP 14.18 for this road section.

FUTURE NEEDS:

This road system would form the connection to the south part of Kupreanof Island through the Douglas Timber Sale. In addition to this connection the road system would generate an increase in public vehicle traffic for recreational, hunting and fishing, subsistence use and other resource development.

STREAM CROSSINGS (INVOLVING FISH HABITAT):

Recommended drainage structures for all stream crossings are presented in the table below. Final structure design will be dependent on cost as well as meeting resource objectives. All Class I streams would require passage of salmon fry, and all Class II streams require passage of resident fish.

Mile	Sta	Stream Class	Max. Creek Size	Recommended Structure	Gradient
1.03	363+90	III	3½' x 1" - Alluvial	48" Ø CMP	10%
1.52	390+10	II	5' x 6" - Alluvial	48" Ø CMP	10%
2.67	450+47	III	4' x 6" - Alluvial	48" Ø CMP	10%
3.13	475+07	II	12' x 2' - Alluvial	20' Bridge	5%
3.85	512+67	II	15' x 1' - Alluvial	117" x 79" CMPA	5%
4.40	541+75	II	10' x 2' - Alluvial	15' Bridge	5%
4.46	545+15	II	5' x 6" - Alluvial	60" Ø CMP	0
4.51	547+85	II	5' x 6" - Alluvial	48" Ø CMP	0
4.52	548+35	II	5' x 6" - Alluvial	48" Ø CMP	0
4.86	566+17	II	10' x 1' - Alluvial	117" x 79" CMPA	5%
5.42	595+90	II	4' x 1' - Alluvial	48" Ø CMP	5%
5.56	603+21	I	7' x 1' - Alluvial	117" x 79" CMPA	5%
6.43	649+36	I	30' x 1' - Alluvial	40' Bridge	0
6.46	650+83	II	5' x 6" - Alluvial	48" Ø CMP	0
7.40	700+38	III	4' x 1' - Alluvial	48" Ø CMP	15%
8.45	755+82	III	3' x 1' - Alluvial	48" Ø CMP	15%
8.76	772+27	I	7' x 1½' - Alluvial	117" x 79" CMPA	0
12.09	947+82	III	36' x 6" - Gravel	20' Bridge	5%
13.09	1000+71	II	8' x 1' - Gravel	96" Ø CMP	0
13.30	1011+84	II	22' x 1' - Gravel	20' Bridge	0
13.78	1037+30	II	27' x 1' - Gravel	25' Bridge	5%
14.00	1048+57	III	20' x 1' - Gravel	20' Bridge	0
14.03	1050+23	III	14' x 1' - Gravel	117" x 79" CMPA	5%

TIMING RESTRICTIONS: "Timing Windows" during which in-stream construction could occur on Class I stream crossings would be from July 18 to August 1. The same "timing window" is applicable to Class II and III crossings at Mile 6.46 and 7.40. Deviation from these timing windows would require consultation with ADF&G.

PLANNED ROAD DESCRIPTION

PROJECT NAME: Shamrock EIS MGT AREA: S11 VCU: 429 MAP #: 2
ROAD NUMBER: 6315 FUNCTIONAL CLASS: Local ENTRY CYCLE: Intermittent
LENGTH: 0.36 miles TRAFFIC SERVICE LEVEL: D DESIGN SPEED: 10 mph
TERMINI: Road 6328 (North Irish Timber Sale) - Road 45810 DESIGN VEHICLE: Logging Truck
CRITICAL VEHICLE: Lowboy HIGHWAY SAFETY ACT: No
MAINTENANCE LEVELS: (ACTIVE SALE) 2 POST SALE: 1

INTENDED PURPOSE:

The purpose of this road system is to provide access to Road 45810 and Unit 6. In the DEIS, this road was scheduled to have been constructed as part of Road 6314 under the North Irish Timber Sale. Under the North Irish Reoffer Decision, the Forest Supervisor decided not to construct Road 6314 from its current terminus, past Big John Lake to North Irish Unit 9. To link Unit 9 with the North Irish road system, Road 6328 is planned to be constructed across the Big John Creek valley to tie in with the originally proposed alignment of Road 6314.

CRITICAL AREAS:

No critical sections were encountered on this road.

ROCK BORROW SITES:

No rock outcrops were observed along Road 6315. A potential quarry site is located with North Irish Unit 9, adjacent to Road 6328, approximately 0.14 miles north of the beginning of Road 6314.

FUTURE NEEDS:

This road could be used to provide access to commercial forest land north of this road's intersection with Road 45810. This area was currently deferred from entry due to goshawk management concerns.

STREAM CROSSINGS (INVOLVING FISH HABITAT):

This road crosses one Class II stream.

Mile	Sta	Stream Class	Max. Creek Size	Recommended Structure	Gradient
0.66	35+00	II	3' x 1' - Gravel	36" CMP	3%

TIMING RESTRICTIONS: None

PLANNED ROAD DESCRIPTION

PROJECT NAME: Shamrock DEIS MGT AREA: S-11 VCU: 429 MAPS #: 1
ROAD NUMBER: 6328 FUNCTIONAL CLASS: Arterial
ENTRY CYCLE: Constant LENGTH: 1.8 miles TRAFFIC SERVICE LEVEL: C
DESIGN SPEED: 30 mph TERMINI: Milepost 6.2, Road 6328 constructed portion in
North Irish Timber Sale to Road 6314 Junction.
DESIGN VEHICLE: Passenger Vehicle CRITICAL VEHICLE: Lowboy
HIGHWAY SAFETY ACT: No
MAINTENANCE LEVELS: (ACTIVE SALE) 3 POST SALE: 3

INTENDED PURPOSE:

To provide access for timber management activities, forest administration, and recreation in the Shamrock Timber Sale(s) area. This road would tie proposed Shamrock Road 6314 to existing Road 6328.

EROSION CONTROL:

All areas of exposed soil during construction activities will be grass seeded and fertilized (BMP 14.7, E6 & BMP 14.8, E1).

CRITICAL AREAS:

There are no environmentally, unstable sections on this road section. However, the road crosses a swale south of the Big John Creek crossing, requiring a 25 foot fill and large through-cut. Attempts to avoid this proved unsuccessful as the swale becomes larger, resulting in a larger fill, if the location were moved downhill. A reconnaissance of the ground uphill proved unsatisfactory as the road was unable to join into Road 6314.

ROCK BORROW SITES:

An existing rock pit, at Milepost 5.5 will be used for initial new construction. During periods of high rainfall (as defined in current regional specifications) blasting operations will be suspended where ground vibration may induce mass movement (BMP 14.18 E1).

FUTURE NEEDS:

Will be continuously used for general forest administration.

STREAM CROSSINGS:

North fork of Big John Creek is a Class I stream in bedrock substrate requiring an estimated 70' permanent bridge. No construction timing is considered necessary at this time, since no anadromous fish are currently present in this stream due to a downstream migration barrier. This stream is considered Class I because of the possibility of installing a fish passage facility in the future. Allow only one equipment crossing during construction (BMP 14.17, E6).

PLANNED ROAD DESCRIPTION

PROJECT NAME: Shamrock EIS MGT AREA: S11 VCU: 429 MAP #: 2
ROAD NUMBER: 45800 FUNCTIONAL CLASS: Local ENTRY CYCLE: Intermittent
LENGTH: 1.70 miles TRAFFIC SERVICE LEVEL: D DESIGN SPEED: 10 mph
TERMINI: Rd 6314 - MP 1.70 DESIGN VEHICLE: Logging Truck
CRITICAL VEHICLE: Mobil Yarder HIGHWAY SAFETY ACT: No
MAINTENANCE LEVELS: (ACTIVE SALE) 2 POST SALE: 1

INTENDED PURPOSE:

The purpose of this road system is to provide access to the commercial forest land (CFL) in harvest Units 50 and 77. This road would only be required for timber harvesting and forest management.

CRITICAL AREAS:

No critical sections were encountered on this road.

ROCK BORROW SITES:

Potential rock pit sites were noted at the following locations:

- 0.41 mile - R31
- 1.30 mile - R32
- 1.70 mile - R33

Coordination with the Landscape Architect would be required in the planning of these rock pit sites due to their proximity to arterial Road 6314. Rehabilitate the rock pits by ditching, sloping and covering with overburden or endhaul material (BMP's 14.18).

FUTURE NEEDS:

This road provides access to the CFL between Units 50 and 77. Following harvesting of the two units, the road should be maintained to a proposed rock pit at 0.41 mile. This pit would be left open as a source of rock for future maintenance of Roads 6314 and 45800. This road would be closed beyond Mile 0.41, between periods of harvesting (BMP 14.20).

STREAM CROSSINGS (INVOLVING FISH HABITAT):

No Class I or II creeks would be crossed by this road location.

Mile	Sta	Stream Class	Max. Creek Size	Recommended Structure	Gradient
1.04	54+84	III	4' x 1' - Gravel	48" Ø CMP	30%
1.39	73+52	III	4' x 1' - Rock	48" Ø CMP	50%
1.41	74+30	III	4' x 1' - Gravel	48" Ø CMP	50%
1.50	79+45	III	4' x 1' - Gravel	48" Ø CMP	40%

TIMING RESTRICTIONS: None

PLANNED ROAD DESCRIPTION

PROJECT NAME: Shamrock EIS MGT AREA: S13 VCU: 438 MAP #: 3
ROAD NUMBER: 45801 FUNCTIONAL CLASS: Local ENTRY CYCLE: Intermittent
LENGTH: 1.27 miles TRAFFIC SERVICE LEVEL: D DESIGN SPEED: 10 mph
TERMINI: Road 6314 - MP 1.27 miles DESIGN VEHICLE: Logging Truck
CRITICAL VEHICLE: Mobile Yarder HIGHWAY SAFETY ACT: No
MAINTENANCE LEVELS: (ACTIVE SALE) 2 POST SALE: 1

INTENDED PURPOSE:

The purpose of this road is to provide access to Units 2, 3 and 4.

CRITICAL AREAS:

A 240 foot section of full bench cut and end haul would be required between the first and second switchback (CA-3). The road location through the first switchback follows a natural amphitheater leading onto a steep (70 to 80 percent) sidehill. The road location is controlled by a creek crossing and bench that must be reached in order in order to lead into the second switchback. Rock is evident about 3 feet below the ground through this section and would have to be endhailed to a waste site at 0.9 mile. This material could be used for the road surface as well. Coordination with the landscape architect would be required for this section due to the proximity to a lake (BMP 14.12).

ROCK BORROW SITES:

In addition to the potential material from the endhaul section between the two switchbacks there are also possible quarry sites at:

- 0.61 mile - R27
- 0.84 mile - R28

The rock pit at Site R27 (Mile 0.61) could be used to construct part of Road 6314 since no obvious rock outcrops were observed in the vicinity. Following construction, these rock pits should be rehabilitated. The possible exception to this would be to develop the first pit at Site R27 into a recreational vehicle camp site or public vehicle parking area due to the proximity to a lake (BMP 14.18).

FUTURE NEEDS:

Access to future harvest units would be gained by extending the road northeast of the first switchback and also locating a temporary spur road west and north of the second switchback at Node 5. In addition to road use for timber harvesting and forest management purposes, the public could use this road for hunting, fishing and subsistence use (BMP 14.20).

STREAM CROSSINGS (INVOLVING FISH HABITAT):

Recommended drainage structures for all stream crossings are presented in the table below. Final structure design will be dependent on cost as well as meeting resource objectives. All Class II streams require passage of resident fish.

Mile	Sta	Stream Class	Max. Creek Size	Recommended Structure	Gradient
0.04	2+15	II	3' x 6" - Gravel	48" Ø CMP	48%
0.10	5+25	II	5' x 6" - Gravel	60" Ø CMP	20%
0.21	11+30	II	4' x 6" - Gravel	60" Ø CMP	25%
0.43	22+95	III	6' x 6" - Gravel	84" Ø CMP	5%
0.57	30+30	II	8' x 6" - Gravel	72" Ø CMP	40%
0.61	32+35	III	5½' x 6" - Gravel	72" Ø CMP	15%
0.71	37+75	III	4' x 6" - Rock	48" Ø CMP	30%
0.94	49+85	III	4' x 6" - Gravel	48" Ø CMP	20%
1.00	52+75	III	5' x 6" - Gravel	48" Ø CMP	15%
1.12	59+25	III	3½' x 1' - Rock	48" Ø CMP	65%

TIMING RESTRICTIONS: None

PLANNED ROAD DESCRIPTION

PROJECT NAME: Shamrock EIS MGT AREA: S11/S13 VCU: 429/438 MAP #: 3
ROAD NUMBER: 45802 FUNCTIONAL CLASS: Local ENTRY CYCLE: Intermittent
LENGTH: 0.60 miles TRAFFIC SERVICE LEVEL: D
DESIGN SPEED: 10 TERMINI: Road 6314 - Unit 4 DESIGN VEHICLE: Logging Truck
CRITICAL VEHICLE: Mobile Yarder HIGHWAY SAFETY ACT: No
MAINTENANCE LEVELS: (ACTIVE SALE) 3 POST SALE: 1

INTENDED PURPOSE:

The primary purpose of this road is to access Unit 4. There is some commercial forest land north of Unit 4 in addition to a small area between Units 2 and 4.

CRITICAL AREAS:

This road was located on a steep cross slope between Mile 0.23 and Mile 0.42 (CA-4). In order to reduce the impact on the steeper slope, excavated material will be end-hauled to stable area and steep areas will be seeded with grass.

ROCK BORROW SITES:

No rock pits or quarry sites were located on this road. The quarry pit at Site R27 on Road 45801 could be used to surface the road.

FUTURE NEEDS:

This road would need to be maintained until the next entry in order to harvest the remaining accessible CFL on both sides of Unit 4. To minimize the erosion to the critical section of the road as described above, the road should be cross-ditched for the time period between entries (BMP 14.20).

STREAM CROSSINGS (INVOLVING FISH HABITAT):

No Class I or II creeks would be crossed by this road location.

Mile	Sta	Stream Class	Max. Creek Size	Recommended Structure	Gradient
0.03	1+35	III	4' x 6" - Rock	48" Ø CMP	35%
0.18	9+44	III	6' x 1' - Rock	60" Ø CMP	20%

TIMING RESTRICTION: None

PLANNED ROAD DESCRIPTION

PROJECT NAME: Shamrock EIS MGT AREA: S11/S13 VCU: 429/436 MAP #: 3

ROAD NUMBER: 45803 FUNCTIONAL CLASS: Local

ENTRY CYCLE: Intermittent LENGTH: 1.88 miles

TRAFFIC SERVICE LEVEL: C

DESIGN SPEED: 10 mph

TERMINI: Road 6314 - Road 45804

DESIGN VEHICLE: Logging Truck

CRITICAL VEHICLE: Mobile Yarder

HIGHWAY SAFETY ACT: No

MAINTENANCE LEVELS: (ACTIVE SALE) 2 POST SALE: 1

INTENDED PURPOSE:

Road 45803's primary purpose is to provide access to the CFL on the north side of Castle River. The road would also provide access to the upper reaches of the southern tributary of the unnamed drainage to the north.

This portion of Road 45803 would give direct access to Units 54 and 25. The local portion of Road 45803 would provide access to Units 23, 61 and 22. Roads 45804 and 45805 are tributary to Road 45803, which would provide access to Units 20, 82, 15, 24, 81 and 55.

CRITICAL AREAS:

No critical areas are encountered on this road.

ROCK BORROW SITES:

Potential rock borrow sites or quarries were located at the following location adjacent to the road system:

- 0.09 mile R16

Coordination with the landscape architect would be required in the planning of these rock pits prior to construction. Rehabilitation of the rock pits would be accomplished by ditching, sloping, and covering with overburden or endhaul material (BMP 14.18).

FUTURE NEEDS:

This road would be required for forest management and timber harvesting in the area between harvest units in this entry as well as the suitable CFL beyond the end of roads proposed in the Shamrock analysis.

In addition to timber harvesting and forest management use, this road could be used by other resource agencies, hunters, trappers and subsistence users. The rock pit at Mile 0.09 would remain open to be used for future maintenance on both Roads 45803 and 6314.

STREAM CROSSINGS (INVOLVING FISH HABITAT):

Recommended drainage structures for all stream crossings are presented in the table below. Final structure design will be dependent on cost as well as meeting resource objectives. All Class II streams require passage of resident fish.

Mile	Sta	Stream Class	Max. Creek Size	Recommended Structure	Gradient
1.12	59+27	III	4' x 6" - Gravel	48" 0 CMP	38%
1.53	80+68	III	4' x 1' - Gravel	48" 0 CMP	30%
1.71	90+31	II	4' x 1' - Gravel	48" 0 CMP	26%

TIMING RESTRICTIONS: None

PLANNED ROAD DESCRIPTION

PROJECT NAME: Shamrock EIS MGT AREA: S13 VCU: 438/436 MAPS #: 3
ROAD NUMBER: 45803 (Local Portion) FUNCTIONAL CLASS: Local
ENTRY CYCLE: Intermittent LENGTH: 5.27 miles TRAFFIC SERVICE LEVEL: D
DESIGN SPEED: 10 mph TERMINI: Jnct 45804 - Unit 22
DESIGN VEHICLE: Logging Truck CRITICAL VEHICLE: Mobil Yarder
HIGHWAY SAFETY ACT: No
MAINTENANCE LEVELS: (ACTIVE SALE) 2 POST SALE: 1

INTENDED PURPOSE:

The primary purpose of this road is to provide access to the CFL on the mid to upper slopes north of the Castle River (Units 23 and 61). The road would also provide access to CFL on the upper slopes of the watershed to the north of the Castle River (Units 61 and 22).

CRITICAL AREAS:

- 1) 2.25 mile to 2.40 mile (CA-6): This section crosses 2 V-Notches. Side slopes are gentle but the notches are approximately 20 and 30 feet deep. Beyond the second notch are two short pitches of 18-20% favorable grade that allows the road to approach the next Critical Area, CA-7, and Unit 23.
- 2) 2.76 mile to 2.79 mile (CA-7): In this section the road would follow a 30 percent sidehill above a 85+ percent unstable slope. The road is located in a well drained area away from the terrain break to prevent mass slope failure. The road would follow this bench in order to access Unit 23. A small section of full bench and construction and end haul would be required at the Unit 23 boundary (BMP's 14.2, 14.12).
- 3) 4.72 miles (CA-9): A section of unstable side slopes for 150 feet would require endhauling of the material and would be disposed of at a level bench adjacent to the Unit 22 boundary (BMP's 14.7, 14.8, and 14.9).

ROCK BORROW SITES:

Potential rock borrow sites or quarries were located at the following location adjacent to the road:

- 2.41 mile R18
- 2.63 mile R19
- 3.00 mile R20
- 3.65 mile R21
- 3.84 mile R22
- 4.38 mile R23

Coordination with the landscape architect would be required in the planning of these rock pits prior to construction. Rehabilitation of the rock pits would be accomplished by ditching, sloping, and covering with overburden or endhaul material (BMP 14.18).

FUTURE NEEDS:

This road system would provide access to CFL west of Unit 22 as well as the area east of Unit 23. An attempt was made to access CFL on the north side of the valley opposite Unit 22 by locating a road at an adverse grade of 7 percent for one mile. This route proved to be unsatisfactory because the road remained at too high an elevation on a 60 percent sidehill with poor quality timber and no suitable landings.

In addition to timber harvesting and forest management use, this road could be used by other resource agencies, hunters, trappers and subsistence users. The rock pit at Mile 0.09 would remain open to be used for future maintenance on both Roads 45803 and 6314. Rock pits at Mile 2.41 mile and Mile 4.38 should also be maintained for that purpose.

STREAM CROSSINGS (INVOLVING FISH HABITAT):

There are no Class I or Class II streams on this segment of Road 45803.

Mile	Sta	Stream Class	Max. Creek Size	Recommended Structure	Gradient
2.25	118+91	III	5' x 6" - Rock	72" CMP	30%
2.33	123+27	III	5' x 1' - Rock	72" CMP	50%
2.43	128+29	III	4' x 6" - Gravel	48" 0 CMP	75%
2.56	135+18	III	5' x 6" - Gravel	60" 0 CMP	50%
2.80	147+90	III	3' x 1' - Gravel	48" 0 CMP	25%
2.93	154+80	III	3' x 1' - Rock	48" 0 CMP	50%
2.96	156+35	III	4.5' x 6" - Rock	60" 0 CMP	45%
4.63	244+30	III	4' x 6" - Rock	48" 0 CMP	40%

TIMING RESTRICTIONS: None

PLANNED ROAD DESCRIPTION

PROJECT NAME: Shamrock EIS MGT AREA: S13 VCU: 436 MAP #: 3
ROAD NUMBER: 45804 FUNCTIONAL CLASS: Local ENTRY CYCLE: Intermittent
LENGTH: 3.91 miles TRAFFIC SERVICE LEVEL: C DESIGN SPEED: 20 mph
TERMINI: Road 45803 - Unit 55 DESIGN VEHICLE: Log Truck
CRITICAL VEHICLE: Lowboy HIGHWAY SAFETY ACT: No
MAINTENANCE LEVELS: (ACTIVE SALE) 2 POST SALE: 1

INTENDED PURPOSE:

The primary purpose of this collector road is to access harvest units on the north side of the Castle River. This road would provide access to Units 82, 15, 24, 81 and 55.

CRITICAL AREAS:

Two critical sections are encountered where the route crosses two V-Notches.

1) 1.47 mile to 1.57 mile (CA-10): Major control points on this segment include a crossing of a Class I stream at Mile 1.45, a crossing of another V-Notch (Mile 1.55), and a large bench at the Mile 1.57. An initial attempt was made to cross the V-Notch creek at a higher elevation without success. At this elevation the creek has formed three separate channels, which forced the crossing downhill to the proposed location. This V-notch (stream channel) changes from a southerly to easterly direction approximately 100 feet below the crossing; this channel continues to the south and then to the west below its junction with the second V-Notch. This confined the road location to a narrow corridor of land above these creek beds near the top of the banks. Two sections of full bench construction and end hauling would be necessary due to the unstable material and proximity to the creek beds. A waste site for the end haul material is located within Unit 15 at Mile 1.35. The side slope range is 15 to 25 percent in this area. BMPs required for this section are 14.7, 14.8, 14.9, 14.12 and 14.17.

2) 1.88 mile to 1.96 miles (CA-11): The large bench on which the road follows through this area is divided by a V-Notch at Mile 2.37. The substrata is very unstable adjacent to this creek channel and would require two sections of endhaul to avoid causing erosion and mass wasting into the water course. A suitable waste disposal site is available for 400 feet, starting at Mile 1.78, on a 25 percent sidehill. BMPs required for this section are 14.7, 14.8 and 14.9.

ROCK BORROW SITES:

There are few available rock quarry sites along this road. Possible quarry sites were located at the following locations:

- 0.77 mile (40 ft North of location) R24
- 2.86 mile R25
- 3.57 mile R26

Rock pits at the 2.12 and 2.41 mile locations on Road 45803 could also be used to surface adjacent portions of the road.

A possible gravel pit site was observed adjacent to Mile 0.36. Rehabilitation of the rock pits following construction and harvesting would be accomplished by ditching, sloping and covering with overburden or endhaul material.

Coordination with the recreational planner is recommended to utilize some of these rock quarry sites as future recreational sites or parking areas.

Best Management Practice 14.18 should be followed after road construction.

FUTURE NEEDS:

This road would provide access to CFL northeast of Unit 55. A road could be possibly located to access the CFL south of the Castle River and east of Units 33 if a suitable crossing of the river can be found (BMP 14.20).

STREAM CROSSINGS (INVOLVING FISH HABITAT):

Recommended drainage structures for all stream crossings are presented in the table below. Final structure design will be dependent on cost as well as meeting resource objectives. All Class I streams would require passage of salmon fry, and all Class II streams require passage of resident fish.

Mile	Sta	Stream Class	Max. Creek Size	Recommended Structure	Gradient
0.21	11+09	II	8' x 1' - Gravel	96" 0 CMP	5%
0.36	19+01	II	20' x 1.5' - Gravel	20' Bridge	5%
0.77	40+65	III	6' x 1' - Gravel	60" 0 CMP	10%
0.85	44+88	I	25' x 1' - Gravel	40' Bridge	10%
0.94	49+63	III	3.5' x 1' - Gravel	48" 0 CMP	10%
1.05	55+44	III	3.5' x 1' - Gravel	48" 0 CMP	35%
1.45	76+56	I	16' x 1.5' - Gravel	25' Bridge	0
1.55	81+84	II	6' x 1' - Gravel	20' Bridge	10%
1.92	101+37	II	12' x 2' - Gravel	25' Bridge	25%
2.14	112+99	III	3' x 6" - Gravel	48" 0 CMP	15%
2.29	120+91	III	4' x 1' - Gravel	60" 0 CMP	30%
2.38	125+66	III	15' x 1' - Gravel	30' Bridge	30%
2.73	144+14	III	4' x 6" - Gravel	48" 0 CMP	10%
2.92	154+18	III	5' x 1' - Gravel	60" 0 CMP	10%
2.98	157+34	III	25' x 2' - Gravel	30' Bridge	5%
3.07	162+10	III	8' x 6" - Gravel	20' Bridge	20%
3.38	178+46	III	3.5' x 1' - Silt	48" 0 CMP	10%
3.66	193+25	III	3' x 1' - Rock	48" 0 CMP	10%
3.72	196+42	III	8' x 1' - Gravel	30' Bridge	20%

TIMING RESTRICTIONS: "Timing Windows" during which in-stream construction on Class I stream crossings could occur would be from July 18 to August 1. The same "timing window" is applicable to Class II and III stream crossings at Mile 0.21, 1.55, 1.92, and 2.92, which are within 0.25 miles of Class I streams. Deviation from this timing window would require consultation with ADF&G.

PLANNED ROAD DESCRIPTION

PROJECT NAME: Shamrock EIS MGT AREA: S13 VCU: 436 MAP #: 3
ROAD NUMBER: 45805 FUNCTIONAL CLASS: Local ENTRY CYCLE: Intermittent
LENGTH: 0.68 Mile TRAFFIC SERVICE LEVEL: D DESIGN SPEED: 10 mph
TERMINI: Road 45803 - Unit 20 DESIGN VEHICLE: Logging Truck
CRITICAL VEHICLE: Mobile Yarder HIGHWAY SAFETY ACT: No
MAINTENANCE LEVELS: (ACTIVE SALE) 2 POST SALE: 1

INTENDED PURPOSE:

This road's primary purpose is to access Unit #20. The eligible Castle River Wild and Scenic Corridor bisects the southern end of Unit 20, where the proposed route ends. This road extends into this corridor in Alternative 2, only.

CRITICAL AREAS:

The road location follows terrain with sideslopes ranging between 1 and 20 percent, presenting no major construction difficulties.

ROCK BORROW SITES:

There are no potential rock quarries in the immediate vicinity of this road. Proposed rock pit sites (R17, R18) at the 2.12 and 2.41 mile locations on Road 45803 would be required to surface this road and tributary spur roads.

FUTURE NEEDS:

This road would be needed to access the remaining CFL to the west of the south boundary of Unit 20 and bounded by the Castle River System and large muskeg opening to the west.

This road system could also be used by hunters, fishermen, and subsistence users to access the upper Castle River drainage (BMP 14.20).

STREAM CROSSINGS (INVOLVING FISH HABITAT):

Recommended drainage structures for all stream crossings are presented in the table below. Final structure design will be dependent on cost as well as meeting resource objectives. All Class II streams require passage of resident fish.

Mile	Sta	Stream Class	Max. Creek Size	Recommended Structure	Gradient
0.17	9+00	II	8' x 1.5' - Gravel/Rock	117" x 79" CMPA	25%
0.35	18+50	III	3.5' x 1' - Gravel	48" 0 CMP	

TIMING RESTRICTIONS: "Timing Windows" during which in-stream construction could occur on Class I stream crossings would be from July 18 to August 1, The same "timing window" is applicable to the Class II crossing at Mile 0.17. Deviation from these timing windows would require consultation with ADF&G.

PLANNED ROAD DESCRIPTION

PROJECT NAME: Shamrock EIS MGT AREA: S11/S13 VCU: 429/436 MAP #: 4
ROAD NUMBER: 45806 FUNCTIONAL CLASS: Local ENTRY CYCLE: Intermittent
LENGTH: 1.56 mile TRAFFIC SERVICE LEVEL: D DESIGN SPEED: 10 mph
TERMINI: Road 6314 - Unit 42 DESIGN VEHICLE: Logging Truck
CRITICAL VEHICLE: Logging Truck HIGHWAY SAFETY ACT: No
MAINTENANCE LEVELS: (ACTIVE SALE) 2 POST SALE: 1

INTENDED PURPOSE:

The primary purpose of this road system is to access the CFL between the Irish Lakes chain and Road 6314. The two units accessed by this road would be Units 42 and 46.

CRITICAL AREAS:

This road offers no areas of major construction difficulty since it follows a series of benches and gentle sideslopes.

ROCK BORROW SITES:

One possible rock quarry located at Mile 1.33 (Site R10). A rock pit located on Road 6314 at Station 738+50 (8.12 mile location) (R9) would also be required to construct the first portion of the road.

Coordination with the landscape architect for the rock quarry at the Mile 1.33 (Site R10) is recommended due to its close proximity to Irish Lake. Rehabilitation of the rock quarry following road construction would include ditching, sloping, and covering with overburden, (BMP 14.18).

FUTURE NEEDS:

This road could ultimately provide access the CFL east of Irish Lakes and north side of the Irish/Keku River Valley. In addition to use for timber harvesting and forest development, this road could also be used as a trailhead to the Irish Lake area by recreationalists, hunters, fishermen and subsistence users (BMP 14.20).

STREAM CROSSINGS (INVOLVING FISH HABITAT):

Recommended drainage structures for all stream crossings are presented in the table below. Final structure design will be dependent on cost as well as meeting resource objectives. All Class II streams require passage of resident fish.

Mile	Sta	Stream Class	Max. Creek Size	Recommended Structure	Gradient
0.66	35+00	II	6' x 1' - Gravel	117" x 79" CMPA	5%
1.09	57+70	III	3.5' x 1.5' - Rock	48" 0 CMP	5%
1.31	69+25	III	3' x 1' - Gravel	48" 0 CMP	25%

TIMING RESTRICTIONS: None

PLANNED ROAD DESCRIPTION

PROJECT NAME: Shamrock EIS MGT AREA: S11 VCU: 429 MAP #: 1
ROAD NUMBER: 45807 FUNCTIONAL CLASS: Local ENTRY CYCLE: Intermittent
LENGTH: 0.56 miles TRAFFIC SERVICE LEVEL: D DESIGN SPEED: 10 mph
TERMINI: Road 45808 - MP 0.23 miles DESIGN VEHICLE: Logging Truck
CRITICAL VEHICLE: Logging Truck HIGHWAY SAFETY ACT: No
MAINTENANCE LEVELS: (ACTIVE SALE) 2 POST SALE: 1

INTENDED PURPOSE:

The primary purpose of this road is to access Unit 14. The road system between the beginning of the road and the Unit 14 boundary is located through several creek draws and low volume commercial forest land.

CRITICAL AREAS:

No critical sections of construction through steep or unstable terrain were encountered on this road location.

ROCK BORROW SITES:

There are few potential rock quarry sites in the immediate vicinity of this road. A possible gravel source or rock pit was noted at Mile 0.58 mile (R4). An established rock pit site is located at the intersections of Roads 6328 and 6333-W in the North Irish Timber Sale. This pit should produce enough rock to surface Road 45807 to the Mile 0.23 (BMP 14.18).

FUTURE NEEDS:

None

STREAM CROSSINGS (INVOLVING FISH HABITAT):

There are no Class I streams that would be crossed by this road.

Mile	Sta	Stream Class	Max. Creek Size	Recommended Structure	Gradient
0.50	12+08	III	3' x 1' - Rock	48" 0 CMP	30%

TIMING RESTRICTIONS: None

PLANNED ROAD DESCRIPTION

PROJECT NAME: Shamrock EIS MGT AREA: S11/S13 VCU: 429/438 MAP #: 1
ROAD NUMBER: 45808 FUNCTIONAL CLASS: Local ENTRY CYCLE: Intermittent
LENGTH: 3.71 miles TRAFFIC SERVICE LEVEL: C DESIGN SPEED: 15 mph
TERMINI: Road 6328 (North Irish Timber Sale) Unit 10 DESIGN VEHICLE: Logging Truck
CRITICAL VEHICLE: Lowboy HIGHWAY SAFETY ACT: No
MAINTENANCE LEVELS: (ACTIVE SALE) 2 POST SALE: 1

INTENDED PURPOSE:

The purpose of this road is to give access to Units 7 and 14, and 8, 13, and 10 in the unnamed valley to the south.

CRITICAL AREAS:

This road has only one minor section that creates an environmental concern apart from the numerous large creek crossings within Units 13 and 10.

1. 1.59 mile (CA-13): The road location at the junction of Road 45809 would require caution during construction and may require end hauling to prevent material from being sidecast into a small wetland adjacent to the location (BMP 14.8 and 14.12).

ROCK BORROW SITES:

There is a potential rock pit at Mile 1.50 (BMP 14.18). It is located at the beginning of the climb to the pass before Unit 8.

There is one potential rock pit on the remaining road section located at Mile 2.40 (BMP 14.18). This pit would be used to construct the remainder of Road 45808 and Road 45809 (BMP 14.18).

The rock pits at Mile 1.50 and Mile 2.40 could become parking areas as well as potential recreational vehicle camp sites for persons wanting to access this valley for other uses.

1.5 mile - R2A

2.40 mile - R1

FUTURE NEEDS:

This road could be extended to provide access to the CFL east of Unit 10. Extending this road east across the lower slopes of this river valley is possible, if appropriate measures are taken to protect water quality and avoid unstable slopes. A substantial portion of the upper slopes on the north side of this valley are potentially unstable, which leaves this CFL unsuitable for timber harvesting. A crossing of main creek channels draining this valley may be possible at a future date to access CFL in the east portion of the Shamrock area.

This road system could provide access to recreational users for fishing and hunting as well as subsistence users. Road use would be restricted to high clearance vehicles.

STREAM CROSSINGS (INVOLVING FISH HABITAT):

Recommended drainage structures for all stream crossings are presented in the table below. Final structure design will be dependent on cost as well as meeting resource objectives. All Class I streams would require passage of salmon fry, and all Class II streams require passage of resident fish.

Mile	Sta	Stream Class	Max. Creek Size	Recommended Structure	Gradient
0.27	14+48	I	12' x 3' - Gravel	117" x 79" CMPA	4%
0.73	38+51	II	10 x 3 - Gravel	15'-6" x 9'-5" SPPA	10%
2.40	126+72	III	8' x 2' - Gravel	117" x 79" CMPA	40%
2.44	128+83	III	3-1/2' x 1' - Gravel	48" ϕ CMP	45%
2.60	137+28	II	6' x 3' - Gravel	117" x 79" CMPA	60%
2.65	139+92	III	10' X 4' - Gravel	30' Bridge	10%
2.81	148+37	III	12' x 2' - Gravel	20' Bridge	20%
2.90	153+12	III	6' x 2' - Gravel	96" ϕ CMP	15%
3.05	161+04	III	6' x 1' - Gravel	84" ϕ CMP	75%
3.12	164+74	III	25' x 2-1/2" - Gravel	30' Bridge	10%
3.32	175+30	II	10' x 1-1/2' - Gravel	15' Bridge	20%
3.42	180+58	III	20' x 2' - Gravel	25' Bridge	10%
3.49	184+27	III	8' x 2' - Gravel	120" ϕ CMP	10%
3.60	190+08	III	14' x 2' - Gravel	15' Bridge	25%

TIMING RESTRICTIONS: "Timing Windows" during which in-stream construction could occur on Class I stream crossings would be from July 18 to August 1. The same "timing window" is applicable to Class II and III crossings at Mile 2.90, 3.32, and 3.60. Deviation from this timing window would require consultation with ADF&G.

PLANNED ROAD DESCRIPTION

PROJECT NAME: Shamrock EIS MGT AREA: S-13 VCU: 438 MAP #: 2
ROAD NUMBER: 45809 FUNCTIONAL CLASS: Local ENTRY CYCLE: Intermittent
LENGTH: 0.84 mile TRAFFIC SERVICE LEVEL: D DESIGN SPEED: 10 mph
TERMINI: Road 45808 - Unit 11 DESIGN VEHICLE: Logging Truck
CRITICAL VEHICLE: Mobil Yarder HIGHWAY SAFETY ACT: No
MAINTENANCE LEVELS: (ACTIVE SALE) 2 POST SALE: 1

INTENDED PURPOSE:

The primary purpose of this road is to access the commercial forest land (Unit 11) on the south side of the unnamed creek south of Unit 13.

EROSION CONTROL:

The constant adverse (-9 percent) grade on this road between the junction with Road 45808 to the crossing of the Class I creek at Mile 0.43 could result in potential sediment input into the creek channels. Regular maintenance and inspections should be maintained during periods of heavy rainfall. Following harvesting, cross-ditching is recommended to protect water quality in this Class I stream (BMP's 14.8 and 14.22).

CRITICAL AREAS:

No critical or environmentally unstable areas were encountered along this road system.

Several alternate routes were assessed to avoid the double adverse switchbacks and reverse curves but proved unsatisfactory. Other routes attempted were either infeasible or would have had potential adverse fisheries impacts.

ROCK BORROW SITES:

No potential rock quarry sites were observed during field analysis.

Potential quarry sites available to construct this road are located adjacent to Road 45808 at the west of unit 8 at R2 (Mile 1.0) and at R1 (Mile 1.94) (BMP 14.18).

FUTURE NEEDS:

This road could be extended to access the remaining commercial forest land to the east. This road would need to follow the lower slopes past an area of extreme soil hazard.

In addition to use for forest development and administration, hunters, fishermen, and subsistence users could use this road (BMP's 14.8 and 14.20).

STREAM CROSSINGS (INVOLVING FISH HABITAT):

Recommended drainage structures for all stream crossings are presented in the table below. Final structure design will be dependent on cost as well as meeting resource objectives. All Class I streams would require passage of salmon fry.

Mile	Sta	Stream Class	Max. Creek Size	Recommended Structure	Gradient
0.43	22+82	I	22' x 2'	30 ft. bridge gravel	-5%

TIMING RESTRICTIONS: "Timing Windows" during which in-stream construction could occur on Class I stream crossings would be from July 18 to August 1. Deviation from this timing window would require consultation with ADF&G.

PLANNED ROAD DESCRIPTION

PROJECT NAME: Shamrock EIS MGT AREA: S11 VCU: 429 MAP #: 2
ROAD NUMBER: 45810 FUNCTIONAL CLASS: Local ENTRY CYCLE: Intermittent
LENGTH: 1.08 miles TRAFFIC SERVICE LEVEL: D DESIGN SPEED: 10 mph
TERMINI: Road 6314 - Unit 6 DESIGN VEHICLE: Logging Truck
CRITICAL VEHICLE: Logging Truck HIGHWAY SAFETY ACT: No
MAINTENANCE LEVELS: (ACTIVE SALE) 2 POST SALE: 1

INTENDED PURPOSE:

The primary purpose of this road is to access the CFL within Unit 6.

EROSION CONTROL:

Following harvest of Unit 6, Road 45810 would be water barred and closed to vehicle traffic due to the steeper than normal grades (+16 to +18 percent) encountered (BMP's 14.8 and 14.22).

CRITICAL AREAS:

No critical area were encountered on this road. A small bench was used for the switchback above Road 6314 which would allow for a 50 foot turning radius.

A small through-cut was encountered at Mile 0.27. Excess material should be hauled to the flat at the first switchback at Mile 0.08.

ROCK BORROW SITES:

No rock outcrops were encountered on or adjacent to this road.

A potential rock pit could be developed at the Mile 0.08 on the uphill side of the first switchback or at the through-cut at Mile 0.27. Follow BMP 14.18.

A potential rock quarry could be developed on Road 6314 at site R5 (0.14 miles north of the start of the Shamrock new construction). This pit would be needed to provide rock for Road 45810 if no other source is found (BMP 14.18).

FUTURE NEEDS:

This road would be required to access the remaining CFL in this area. There is additional CFL to the south of Unit 6 that could be accessed by extending the road across the hillside from its proposed southern terminus. This road would be closed after use. The steep grades (+18 percent) encountered in the first section of the road would be water barred to prevent erosion and sedimentation (BMP 14.22).

STREAM CROSSINGS (INVOLVING FISH HABITAT):

There would be no Class I or II streams crossed by this road.

Mile	Sta	Stream Class	Max. Creek Size	Recommended Structure	Gradient
0.97	51+10	III	4' x 1' - Rock	48" 0 CMP	25%

TIMING RESTRICTIONS: None

PLANNED ROAD DESCRIPTION

PROJECT NAME: Shamrock EIS MGT AREA: S11 VCU: 429 MAP #: 2
ROAD NUMBER: 45845 FUNCTIONAL CLASS: Local ENTRY CYCLE: Intermittent
LENGTH: 0.32 miles TRAFFIC SERVICE LEVEL: D DESIGN SPEED: 10 mph
TERMINI: Road 6314 - MP 0.32 miles DESIGN VEHICLE: Logging Truck
CRITICAL VEHICLE: Logging Truck HIGHWAY SAFETY ACT: No
MAINTENANCE LEVELS: (ACTIVE SALE) 2 POST SALE: 1

INTENDED PURPOSE:

The purpose of this road is to provide access to the rock pit at Mile 0.32 and the CFL in Unit 45. A spur (temporary) road would be need to be extended from this road to access landings in Unit 45.

CRITICAL AREAS:

No critical sections were encountered along this road location.

ROCK BORROW SITES:

A potential quarry site is located at the road terminus and would provide enough material to construct the entire road. This pit could be used to construct portions of Road 6314 and used for future road maintenance material. Following construction this rock quarry should be ditched and sloped to prevent silt from entering the creeks approximately 0.1 mile beyond the end of the road (BMP 14.18).

FUTURE NEEDS:

This road would be used to access the rock pit at Mile 0.32. There is no other CFL that would be accessed by this road.

This road and rock pit could be used by fishermen and hunters as a parking area.

STREAM CROSSINGS (INVOLVING FISH HABITAT):

There are no Class I or II streams crossed by this proposed road.

TIMING RESTRICTIONS: None

PLANNED ROAD DESCRIPTION

PROJECT NAME: Shamrock EIS MGT AREA: S13 VCU: 436 MAP #: 4
ROAD NUMBER: 45906 FUNCTIONAL CLASS: Local
ENTRY CYCLE: Intermittent LENGTH: 0.71 mile
TRAFFIC SERVICE LEVEL: D DESIGN SPEED: 10 mph
TERMINI: Road 45915 - MP 0.71 miles DESIGN VEHICLE: Logging Truck
CRITICAL VEHICLE: Lowboy HIGHWAY SAFETY ACT: No
MAINTENANCE LEVELS: (ACTIVE SALE) 2 POST SALE: 1

INTENDED PURPOSE:

The primary purpose of this road is to access the CFL north of the pass between Units 35 and 37. There is no CFL accessible north of Unit 36.

EROSION CONTROL:

Following harvesting of Unit 36 this road would be waterbarred. The erosion potential during heavy rainstorms is high due to the portions of steep grades (10 percent adverse and 16 percent favorable). Regular road maintenance and periodic bridge inspections of the structure at Mile 0.18 would be necessary (BMP 14.8 and 14.20).

CRITICAL AREAS:

There are no critical areas along this road location.

ROCK BORROW SITES:

Two possible sites were located for constructing this road. A possible gravel pit was located adjacent to the creek at Mile 0.18. A possible quarry site is located 0.7 miles from the end of this road that could be accessed by a spur road. If it is possible to access this source then careful planning and instream timing would have to be adhered to prevent any deleterious affect to the fish habitat in this creek or downstream creeks (BMP 14.6).

A rock quarry site was located at Mile 0.78 (R30). Following construction, this pit should be outslopped, covered with overburden and allowed to revegetate (BMP 14.18).

STREAM CROSSINGS (INVOLVING FISH HABITAT):

Recommended drainage structures for all stream crossings are presented in the table below. Final structure design will be dependent on cost as well as meeting resource objectives. All Class II streams require passage of resident fish.

Mile Sta.	Creek Class	Max. Creek Size	Recommended Structure	Gradient
0.18	II	8' x 1' - Gravel	15' Bridge	6%
0.33	III	5' x 1' - Gravel	60" CMP	15%

TIMING RESTRICTIONS: None

PLANNED ROAD DESCRIPTION

PROJECT NAME: Shamrock EIS MGT AREA: S11/S13 VCU: 429/436 MAP #: 4
ROAD NUMBER: 45915 FUNCTIONAL CLASS: Local ENTRY CYCLE: Intermittent
LENGTH: 2.30 mile TRAFFIC SERVICE LEVEL: C DESIGN SPEED: 10 mph
TERMINI: Road 6314 - Unit 29 DESIGN VEHICLE: Logging Truck
CRITICAL VEHICLE: Mobile Yarder HIGHWAY SAFETY ACT: No
MAINTENANCE LEVELS: (ACTIVE SALE) 2 POST SALE: 1

INTENDED PURPOSE:

The purpose of this road system is to provide access to Units 51, 35, 36, 37 and 29. It would also access a helicopter landing in Unit 29 to be used to harvest Units 31, 32, and 33 (Alternative 2, only). The BMP's to be used for this road are 14.8, 14.9, 14.20 and 14.24 following harvesting.

CRITICAL AREAS:

There were no critical areas or sections encountered throughout the length of this road. However, BMP's 14.9 and 14.12 may be appropriate when crossing the creek at Mile 1.87 and constructing road across the steeper sideslopes on the south portion of Unit 29.

ROCK BORROW SITES:

This road follows the lower slopes and deeper soil types resulting in a lack of natural rock quarry sites. Rock quarries or borrow pits were observed at the junction with Road 6314 (toe of slide path) and at station 98+92 (Mile 1.87). A possible gravel pit could be developed at Mile 0.18 of Road 45906 that could be used to construct this road (BMP's 14.8 and 14.18).

FUTURE NEEDS:

This road would be required to access the remaining CFL on the west side of this southern tributary of the Castle River as well as manage the areas developed by the Shamrock project.

In addition to Forest Service management activities, this road could be used by other resource agencies, hunters, and fishermen, as well as for subsistence use, as it gives access to a presently undeveloped river drainage.

STREAM CROSSINGS (INVOLVING FISH HABITAT):

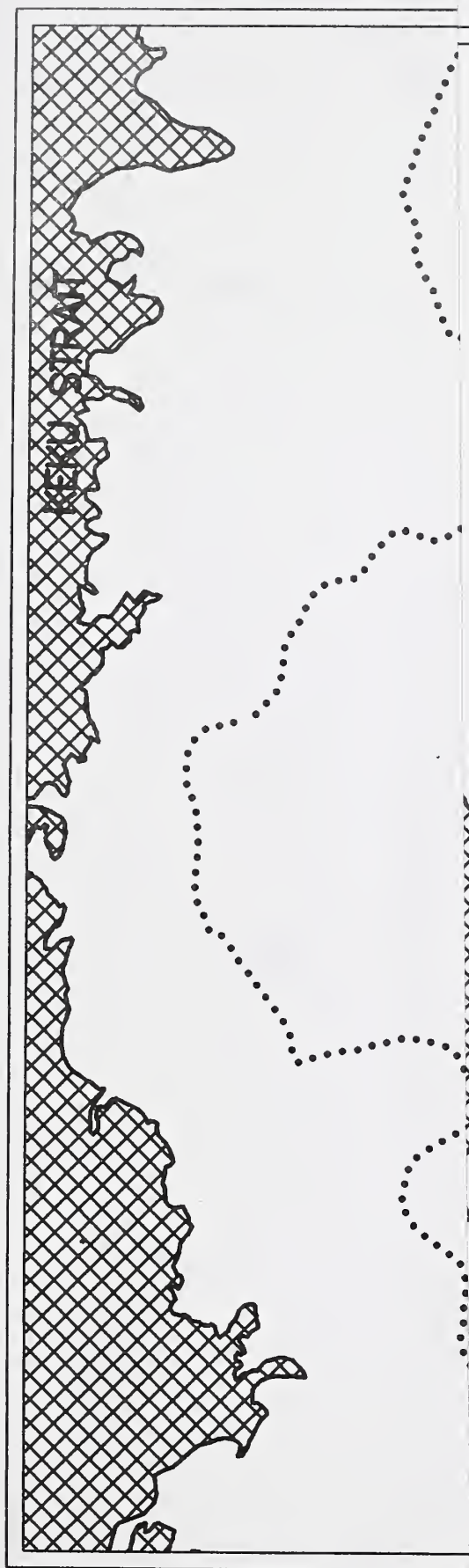
There are no Class I fish streams that would be crossed by this road.

Mile	Sta	Stream Class	Max. Creek Size	Recommended Structure	Gradient
0.27	14+28	III	8' x 6' - Gravel	60" 0 CMP	5%
1.86	98+16	III	3' x 1' - Gravel	48" 0 CMP	25%
1.87	98+62	III	6' x 1' - Gravel	60" 0 CMP	50%

TIMING RESTRICTIONS: None



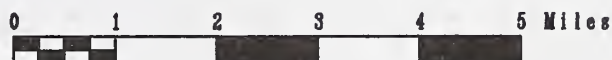
Proposed Shamrock



LEGEND

-  Shamrock Area Boundary
-  Shoreline
-  Existing Roads
-  Proposed Roads
-  Ocean
-  Lakes
-  Proposed Shamrock Units
-  Previously Harvested Units

SCALE 1:120,000



Proposed Shamrock Transportation System

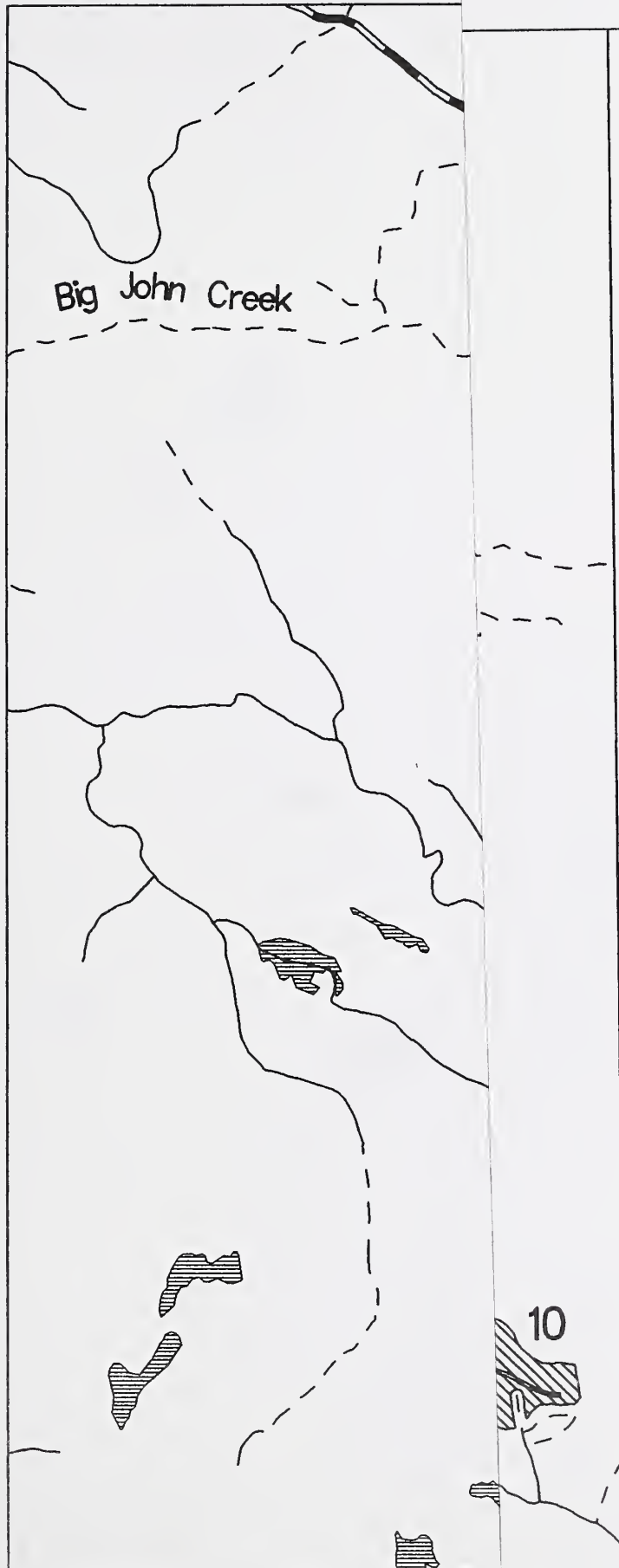


LEGEND










- Shamrock Area Boundary
- Shoreline
- Existing Roads
- Proposed Roads
- Ocean
- Lakes
- Proposed Shamrock Units
- Previously Harvested Units

SCALE 1:120,000





LEGEND

-  Proposed Forest Development Roads
-  Proposed Temporary Roads
-  Existing Roads
-  Class 1 Streams
-  Class 2 Streams
-  Proposed Shamrock Harvest Units
-  Previously Harvested Units
-  Lakes
-  Rockpits



SCALE 1:31,680
(2 inches = 1 mile)



LEGEND

- Proposed Forest Development Roads
- Proposed Temporary Roads
- Existing Roads
- Class 1 Streams
- Class 2 Streams

- Proposed Shamrock Harvest Units
- Previously Harvested Units
- Lakes










Rockpits



SCALE 1:31,680
(2 inches = 1 mile)



LEGEND

-  Proposed Forest Development Roads
-  Proposed Temporary Roads
-  Existing Roads
-  Class 1 Streams
-  Class 2 Streams
-  Proposed Shamrock Harvest Units
-  Previously Harvested Units
-  Lakes
-  Rockpits



SCALE 1:31,680
(2 inches = 1 mile)









LEGEND

 Proposed Forest Development Roads

 Proposed Temporary Roads

 Existing Roads

 Class 1 Streams

 Class 2 Streams

 Proposed Shamrock Harvest Units

 Previously Harvested Units

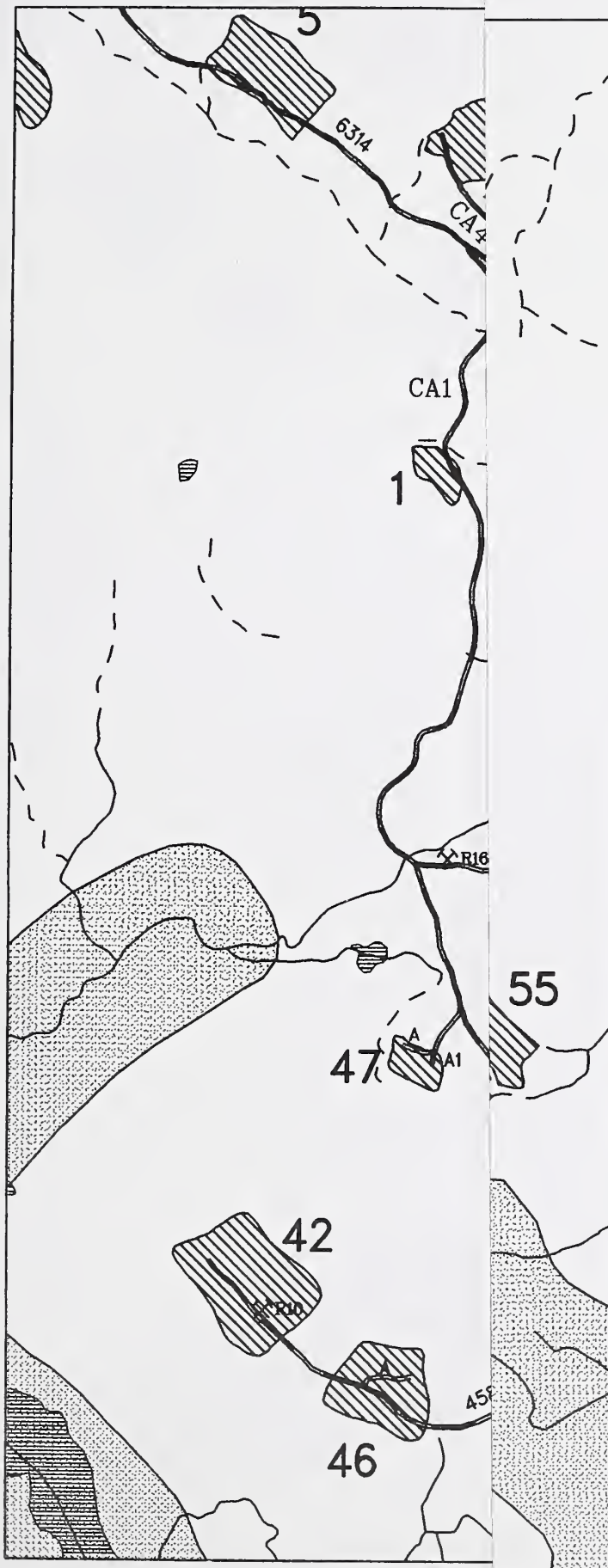
 Lakes

 Eligible Wild and Scenic River Corridor

 Rockpits



SCALE 1:31,680
(2 inches = 1 mile)







LEGEND

- Proposed Forest Development Roads
- Proposed Temporary Roads
- Existing Roads
- Class 1 Streams
- Class 2 Streams

- Proposed Shamrock Harvest Units
- Previously Harvested Units
- Lakes
- Eligible Wild and Scenic River Corridor











Rockpits



SCALE 1:31,680
(2 inches = 1 mile)

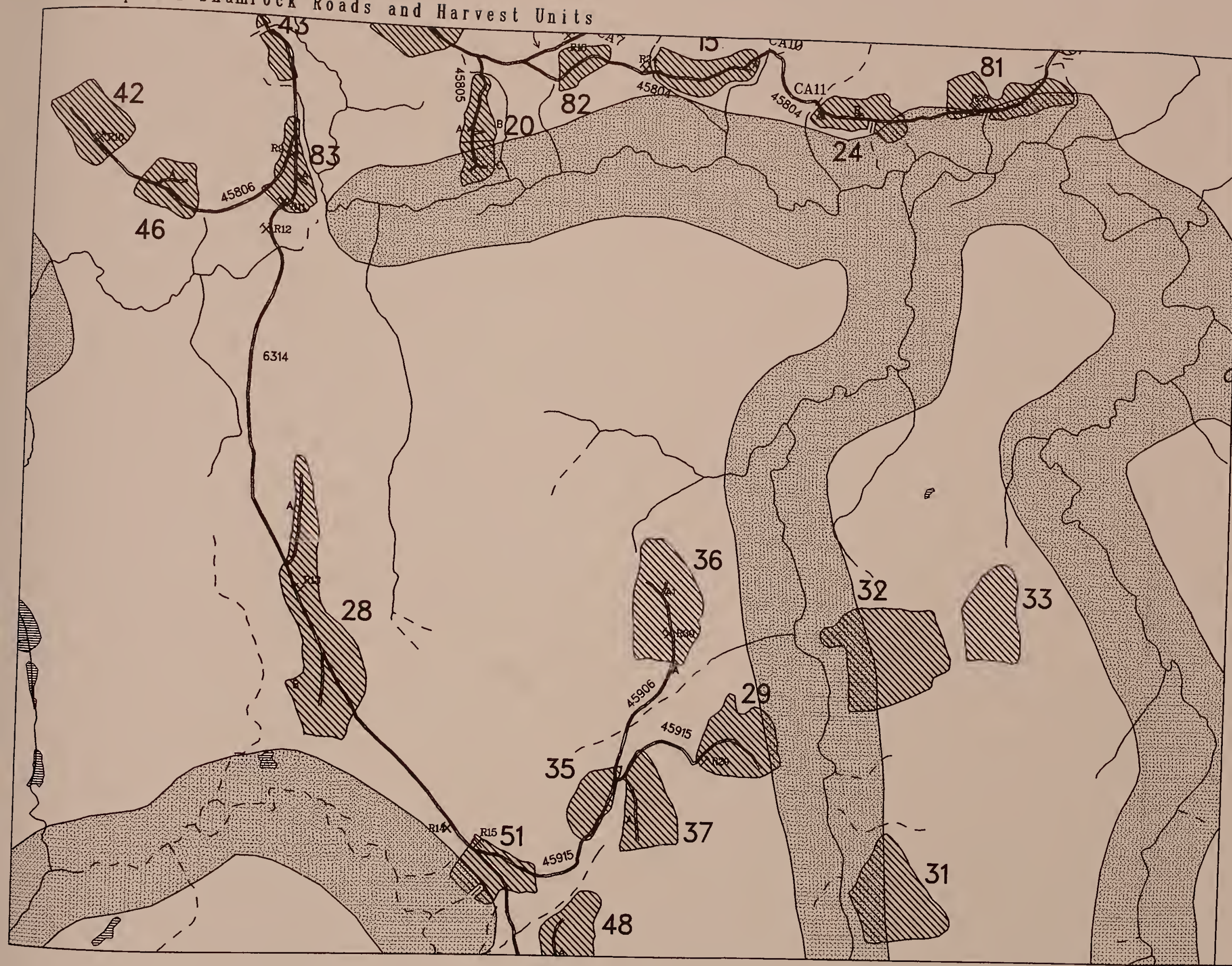


LEGEND

-  Proposed Forest Development Roads
-  Proposed Temporary Roads
-  Existing Roads
-  Class 1 Streams
-  Class 2 Streams
-  Proposed Shamrock Harvest Units
-  Previously Harvested Units
-  Lakes
-  Eligible Wild and Scenic River Corridor
-  Rockpits



SCALE 1:31,680
(2 inches = 1 mile)



LEGEND

- Proposed Forest Development Roads
- Proposed Temporary Roads
- Existing Roads
- Class 1 Streams
- Class 2 Streams

- Proposed Shamrock Harvest Units
- Previously Harvested Units
- Lakes

Eligible Wild and Scenic River Corridor











Rockpits



SCALE 1:31,680
(2 inches = 1 mile)



LEGEND

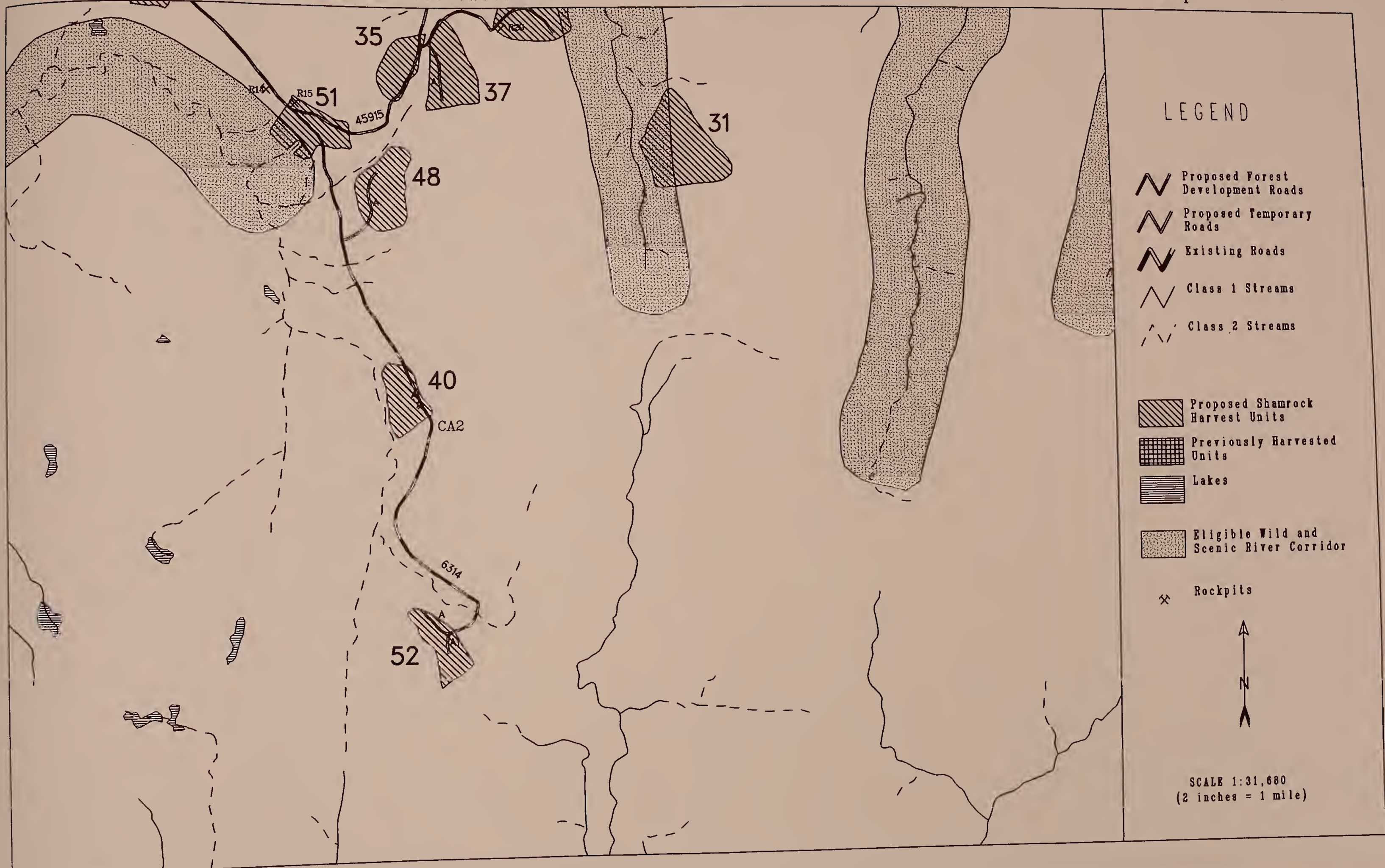
-  Proposed Forest Development Roads
-  Proposed Temporary Roads
-  Existing Roads
-  Class 1 Streams
-  Class 2 Streams
-  Proposed Shamrock Harvest Units
-  Previously Harvested Units
-  Lakes
-  Eligible Wild and Scenic River Corridor
-  Rockpits



SCALE 1:31,680
(2 inches = 1 mile)









Appendix C

Figures Supporting Subsistence Inventories

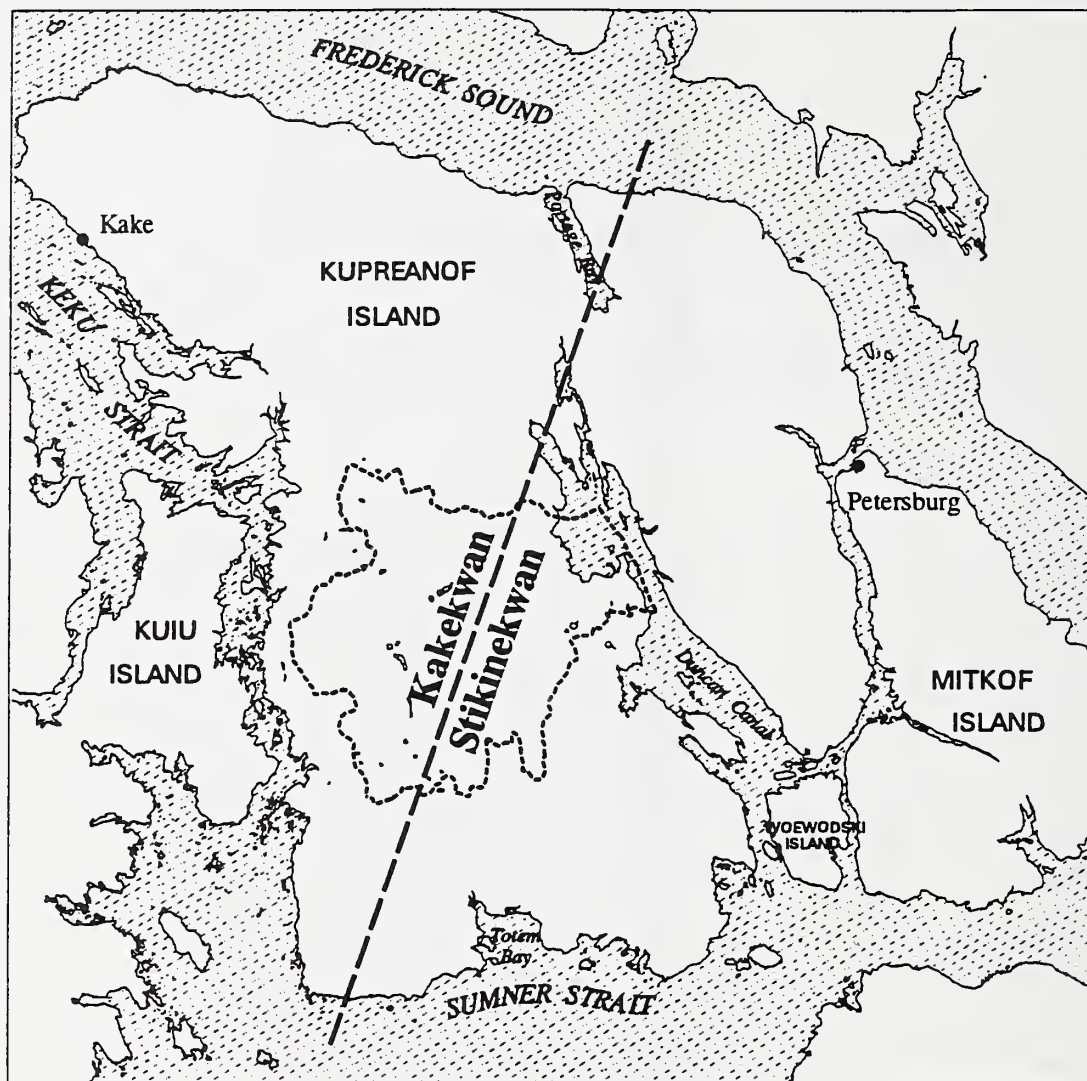
Appendix C

Figures Supporting Subsistence Inventories




- | | |
|--------------------|---------------------------------------------------------------------------------|
| Figure C-1 | Division Between Tlingit Kakekwan and Stikinekwan Territory |
| Figure C-2 | Areas Used for Deer Hunting by Petersburg Residents |
| Figure C-3 | Areas Used for Deer Hunting by Kake Residents |
| Figure C-4 | Areas Used for Deer Hunting by Wrangell Residents |
| Figure C-5 | Areas Used for Deer Hunting by Point Baker and Port Protection Residents |
| Figure C-6 | Percent of Household Food Supply Provided by Subsistence |
| Figure C-7 | Pounds of Edible Subsistence Harvest Per Capita |
| Figure C-8 | Areas Used for Non-Commercial Salmon Harvest |
| Figure C-9 | Areas Used for Non-Commercial Harvest of Finfish Other Than Salmon |
| Figure C-10 | Areas Used for Non-Commercial Harvest of Marine Invertebrates |
| Figure C-11 | Areas Used for Non-Commercial Harvest of Marine Mammals |

Figure C-1

Division Between Tlingit Kakekwan and Stikinekwan Territory



LEGEND

-  Shamrock Area Boundary
-  Shoreline
-  Open Water Areas

SCALE 1:500,000

0 1 2 3 4 5 6 7 8 9 10 Kilometers

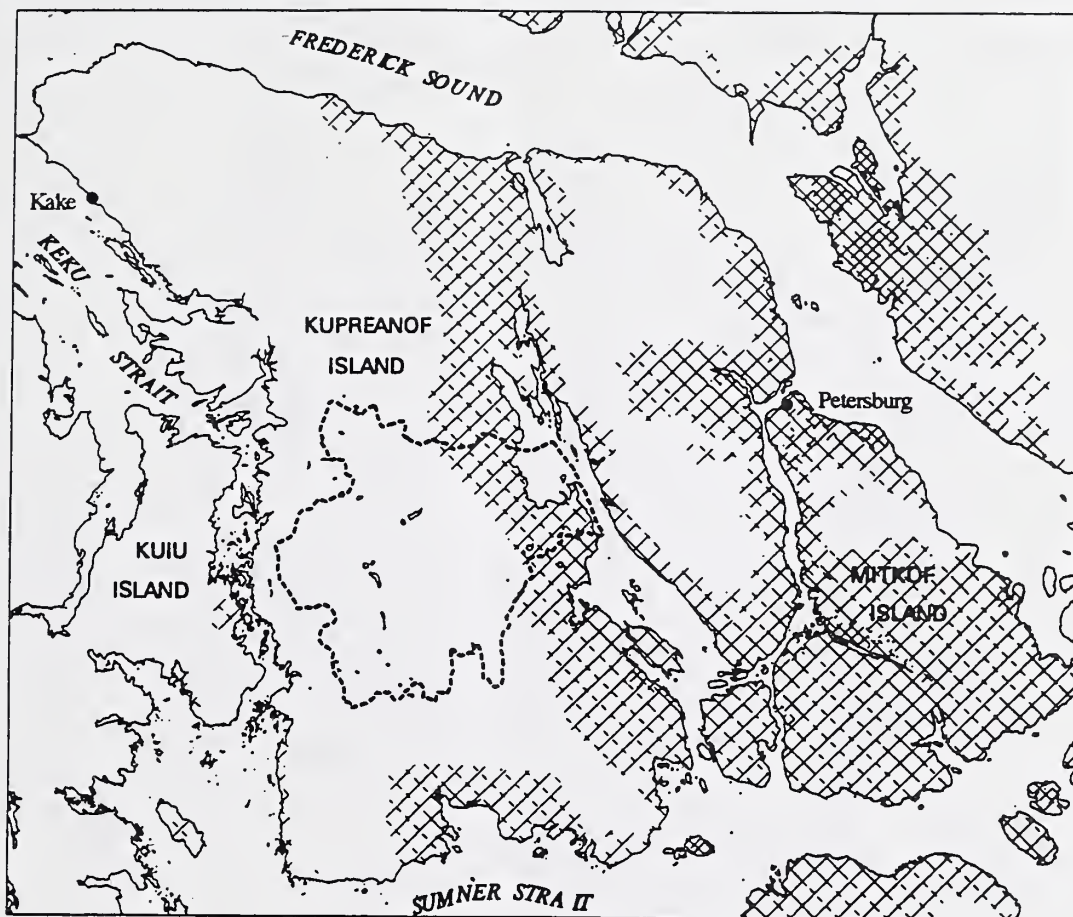


0 1 2 3 4 5 6 7 8 9 10 Miles



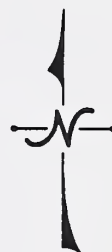
Source: R. Betts, 1992

Figure C-2
Areas Used for Deer Hunting by Petersburg Residents



LEGEND

- Shamrock Area Boundary
- Shoreline
- 0% of Households
- 0%-1% of Households
- >1%-3% of Households
- >3%-5% of Households
- >5%-10% of Households
- >10%-25% of Households
- >25% of Households



SCALE 1:550,000

0 1 2 3 4 5 6 7 8 9 10 Kilometers

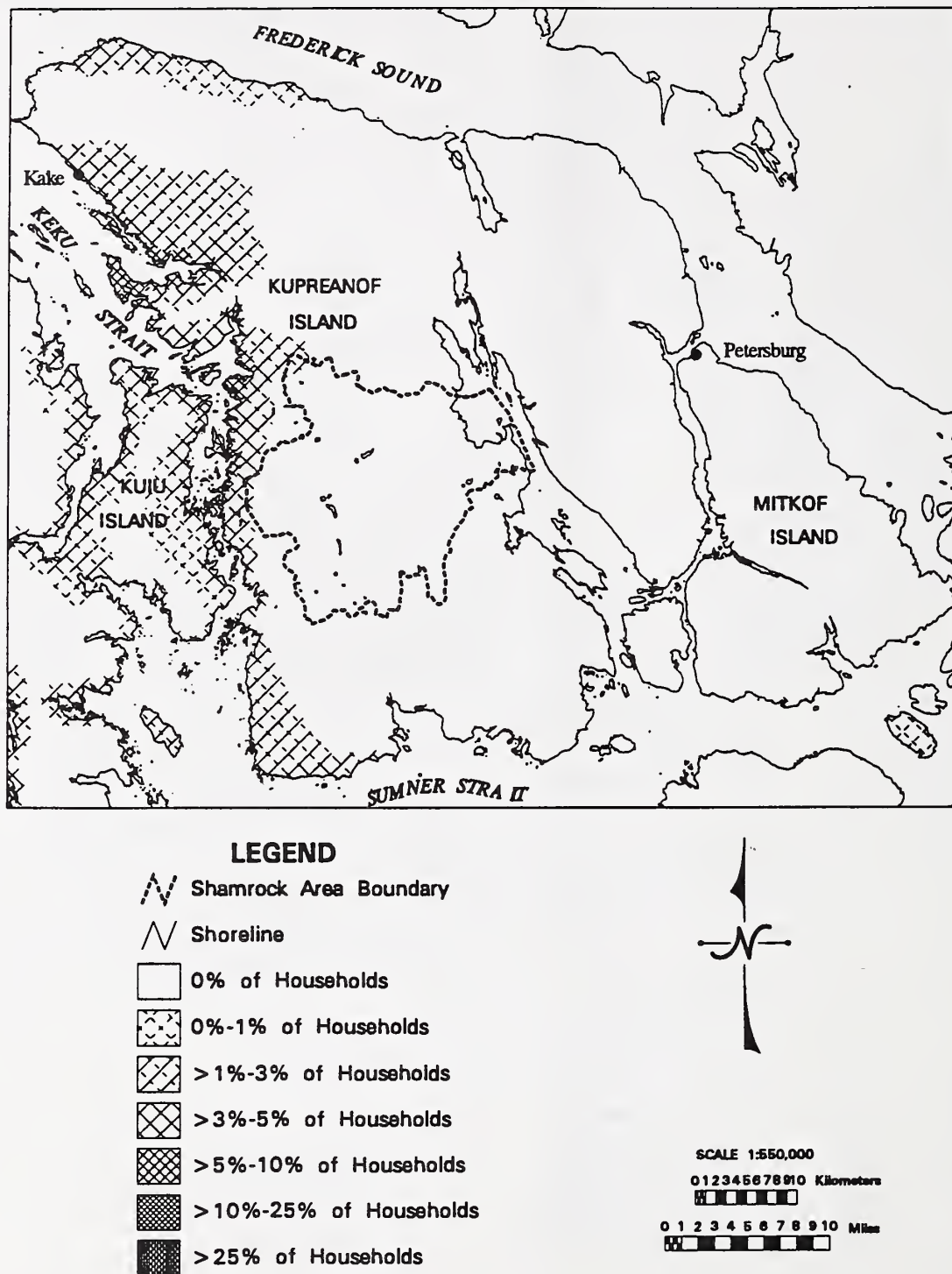


0 1 2 3 4 5 6 7 8 9 10 Miles



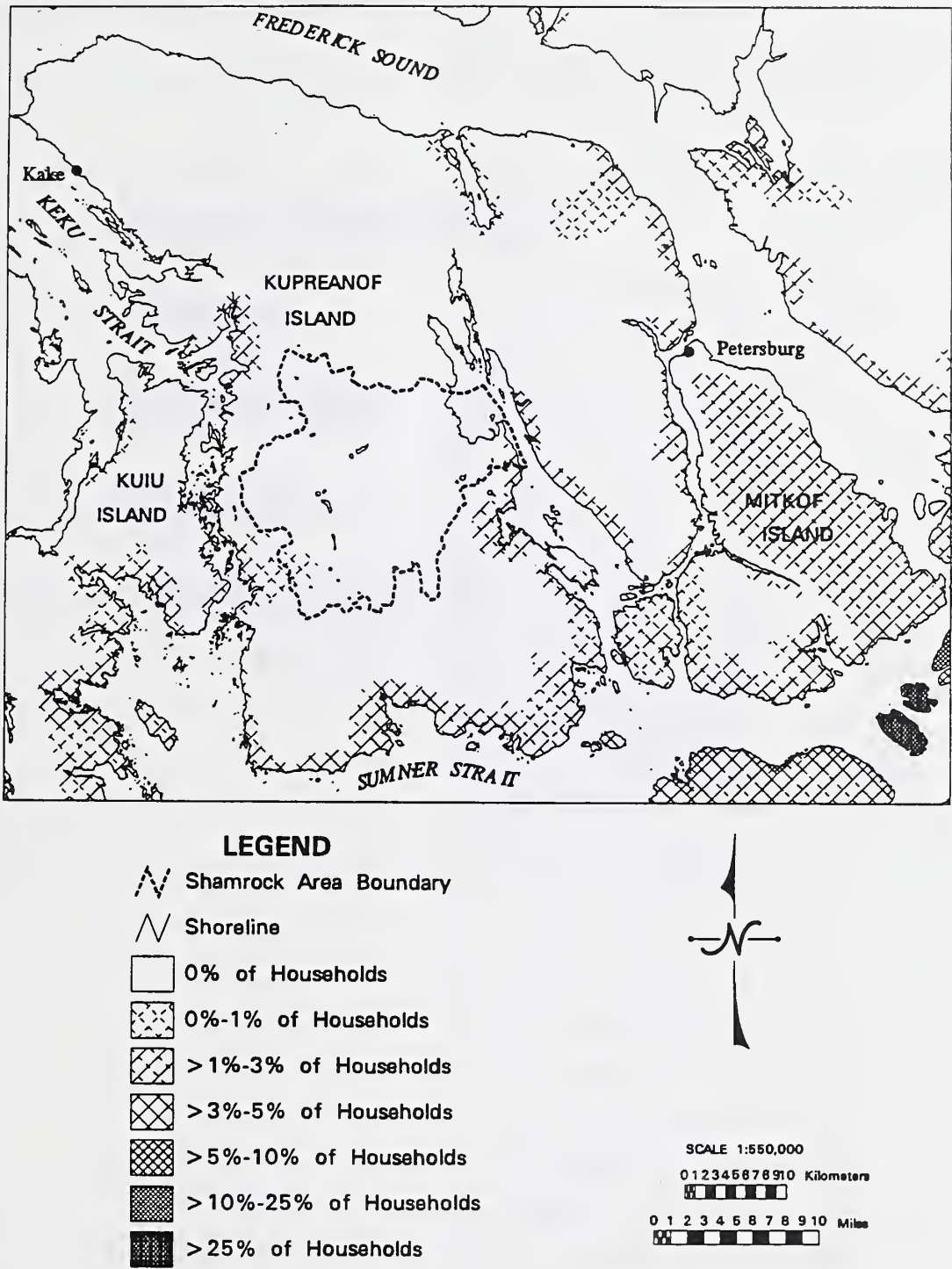
Source: J. Kruse, 1991 Derived from TRUCS database

Figure C-3
Areas Used for Deer Hunting by Kake Residents



Source: J. Kruse, 1991 Derived from TRUCS database

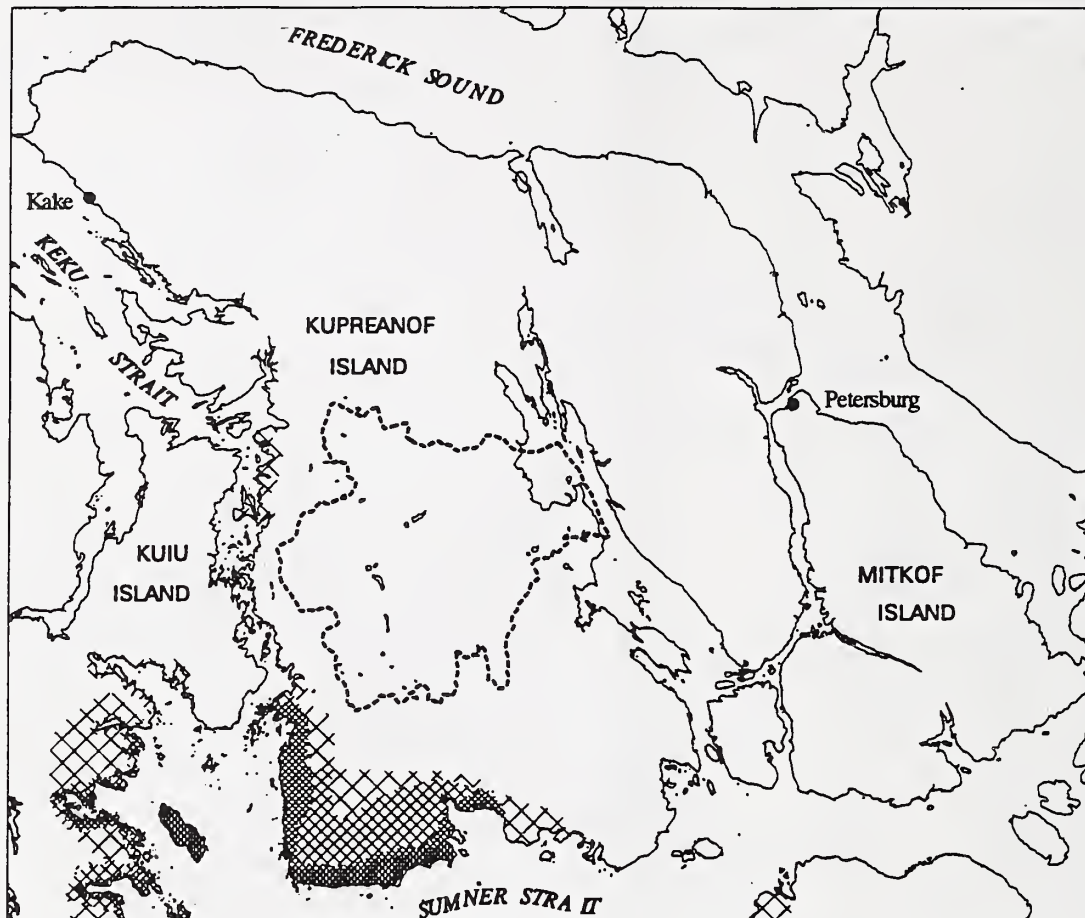
Figure C-4
Areas Used for Deer Hunting by Wrangell Residents



Source: J. Kruse, 1991 Derived from TRUCS database

Figure C-5

Areas Used for Deer Hunting by Point Baker and Port Protection Residents



LEGEND

- Shamrock Area Boundary
- Shoreline
- 0% of Households
- 0%-1% of Households
- >1%-3% of Households
- >3%-5% of Households
- >5%-10% of Households
- >10%-25% of Households
- >25% of Households



SCALE 1:550,000

0 1 2 3 4 5 6 7 8 9 10 Kilometers



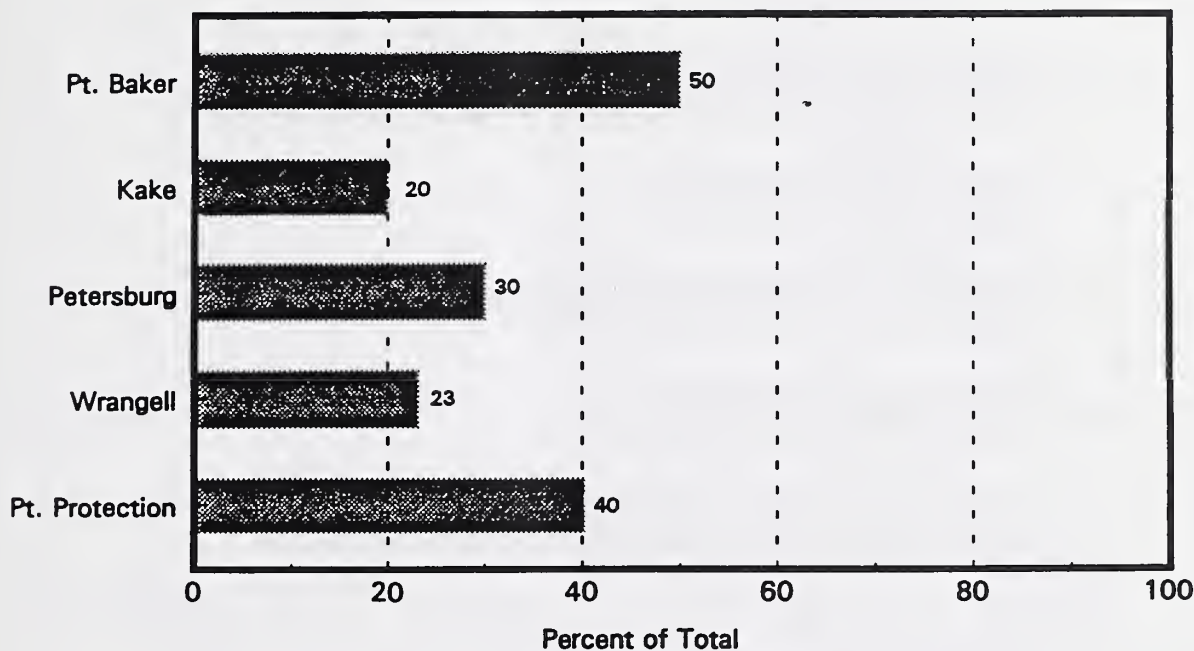
0 1 2 3 4 5 6 7 8 9 10 Miles



Source: J. Kruse, 1991 Derived from TRUCS database

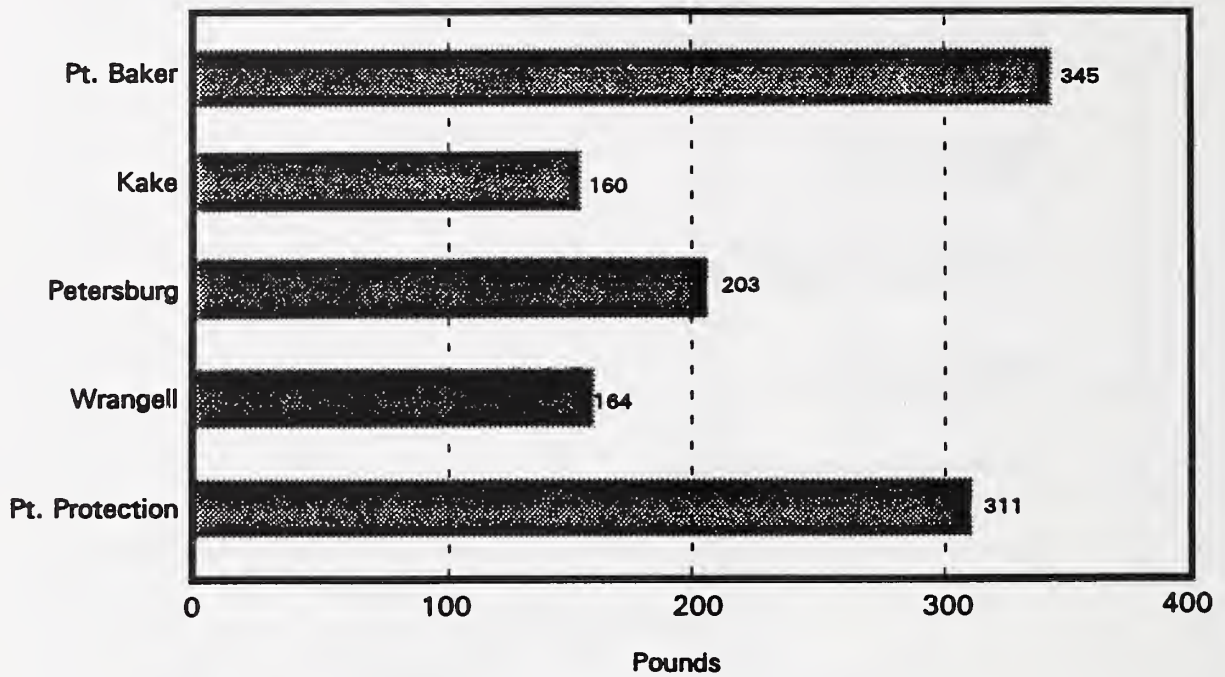
Figure C-6

Percent of Household Food Supply Provided by Subsistence (by Community)



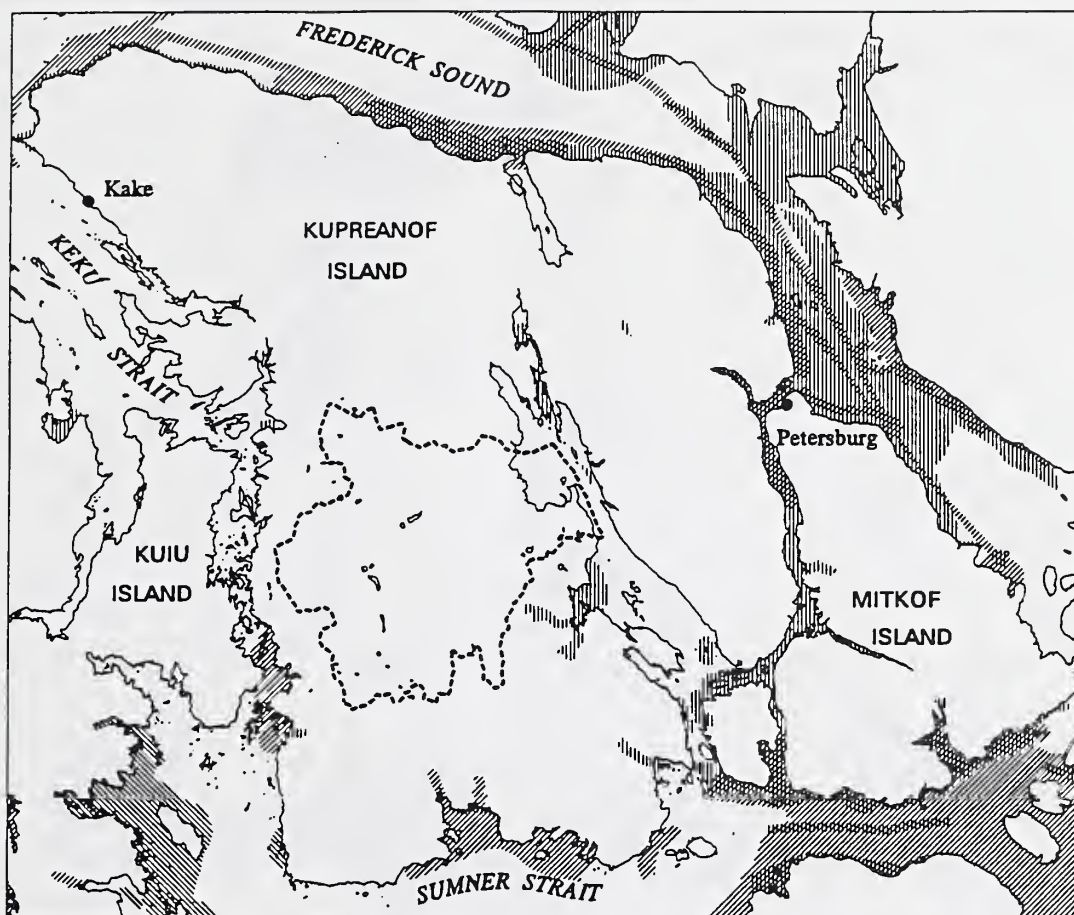
Source: Tongass Resource Use Cooperative Survey, University of Alaska, 1988

Figure C-7
Pounds of Edible Subsistence Harvest Per Capita



Source: Tongass Resource Use Cooperative Survey, University of Alaska, 1988

Figure C-8
Areas Used for Non-Commercial Salmon Harvest



LEGEND

- Shamrock Area Boundary
- Shoreline
- Kake
- Petersburg
- Point Baker
- Wrangell



SCALE 1:550,000

0 1 2 3 4 5 6 7 8 9 10 Kilometers



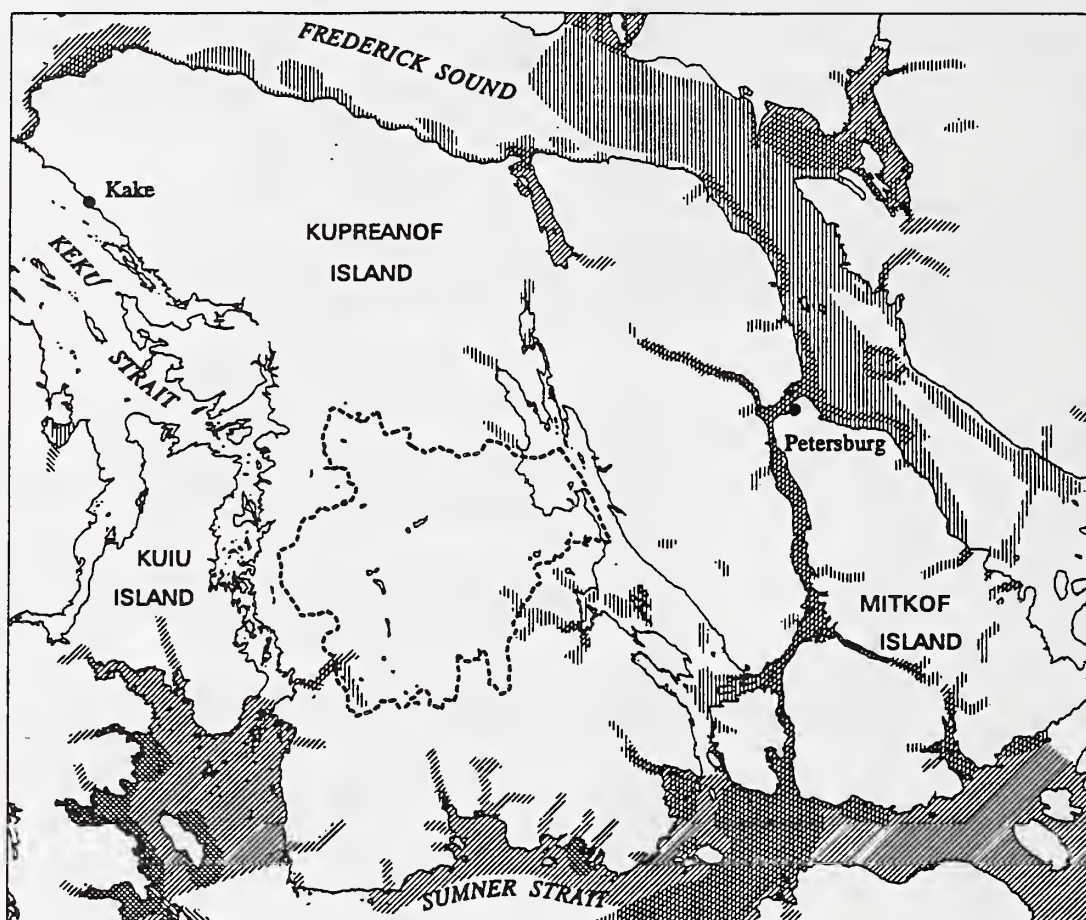
0 1 2 3 4 5 6 7 8 9 10 Miles



Source: J. Kruse, 1991 Derived from TRUCS database

Figure C-9

Areas Used for Non-Commercial Harvest of Finfish Other Than Salmon



LEGEND

- Shamrock Area Boundary
- Shoreline
- Kake
- Petersburg
- Point Baker
- Wrangell



SCALE 1:550,000

0 1 2 3 4 5 6 7 8 9 10 Kilometers



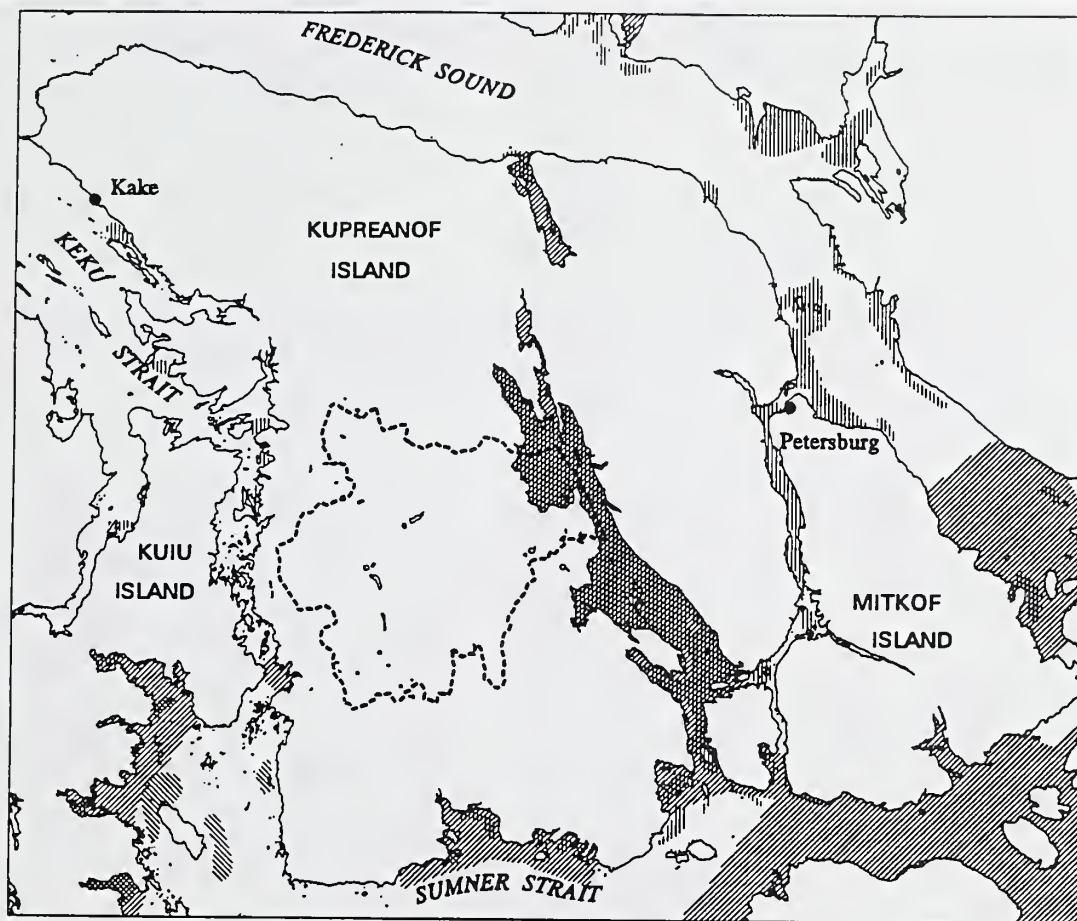
0 1 2 3 4 5 6 7 8 9 10 Miles









Source: J. Kruse, 1991 Derived from TRUCS database

Figure C-10

Areas Used for Non-Commercial Harvest of Marine Invertebrates



LEGEND

-  Shamrock Area Boundary
-  Shoreline
-  Kake
-  Petersburg
-  Point Baker
-  Wrangell



SCALE 1:550,000

0 1 2 3 4 5 6 7 8 9 10 Kilometers



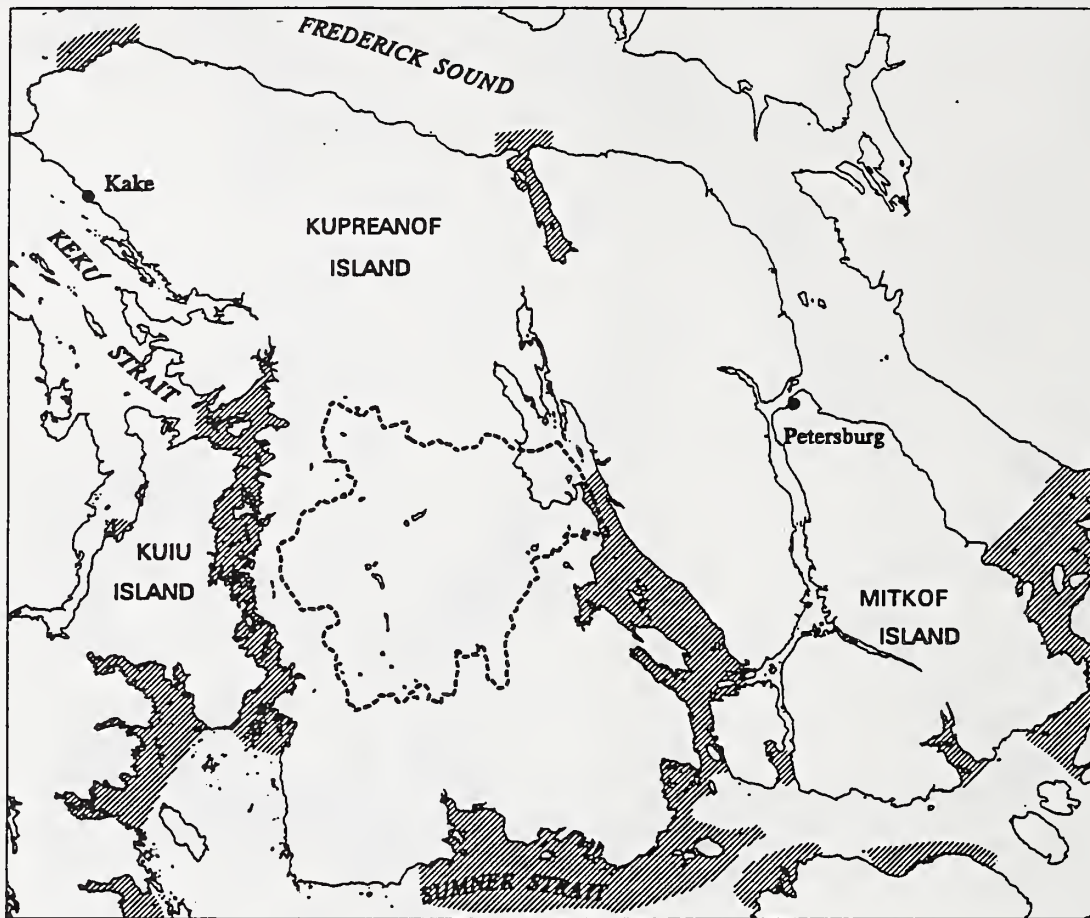
0 1 2 3 4 5 6 7 8 9 10 Miles









Source: J. Kruse, 1991 Derived from TRUCS database

Figure C-11

Areas Used for Non-Commercial Harvest of Marine Mammals



LEGEND

-  Shamrock Area Boundary
-  Shoreline
-  Kake
-  Petersburg
-  Point Baker
-  Wrangell

SCALE 1:550,000
0 1 2 3 4 5 6 7 8 9 10 Kilometers
0 1 2 3 4 5 6 7 8 9 10 Miles

Source: J. Kruse, 1991 Derived from TRUCS database

Appendix D

Road Management Objectives

The following Road Management Objectives were developed in response to public comments on the Supplement to the Draft EIS

ROAD MANAGEMENT OBJECTIVES

ROAD NUMBER: 6314

ROAD NAME: Keku Strait

Travelway Management Prescription

UNRESTRICTED

This road is safe and open to the general public without restriction. It is passable by standard four-wheel passenger cars and is subject to the Highway Safety Act.

Maintenance Level 3...Management direction requires that this road be open and maintained for safe travel by a prudent driver in a passenger vehicle. User comfort and convenience is not a priority. Drainage structures are maintained to keep functional and prevent unacceptable environmental damage.

Travel Management Strategy

Encourage	All licensed vehicles
Accept	Snowmobiles/ATV's when snow conditions make it impossible for use by other two-wheel drive vehicles; bicycles, hikers and all other non-motorized modes of travel.
Discourage	N/A
Prohibit	All unlicensed vehicles.
Eliminate	N/A

ROAD MANAGEMENT OBJECTIVES

ROAD NUMBER: 6328

ROAD NAME: Jasper High

Travelway Management Prescription

UNRESTRICTED

This road is safe and open to the general public without restriction. It is passable by standard four-wheel passenger cars and is subject to the Highway Safety Act.

Maintenance Level 3...Management direction requires that this road be open and maintained for safe travel by a prudent driver in a passenger vehicle. User comfort and convenience is not a priority. Drainage structures are maintained to keep functional and prevent unacceptable environmental damage.

Travel Management Strategy

Encourage	All licensed vehicles
Accept	Snowmobiles/ATV's when snow conditions make it impossible for use by other two-wheel drive vehicles; bicycles, hikers and all other non-motorized modes of travel.
Discourage	N/A
Prohibit	All unlicensed vehicles.
Eliminate	N/A

ROAD MANAGEMENT OBJECTIVES

ROAD NUMBER: 6315

ROAD NAME: Big John Creek

Travelway Management Prescription

HIGH CLEARANCE VEHICLES

This road is designed for high clearance vehicles, requiring special driver skills, such as pickup trucks. This road is single lane with some turnouts, backing to allow vehicles to pass is expected. Safety features for mixed traffic are not designed. It will be common for low clearance vehicles to drag bottom from time to time. The objective is to provide a facility safe for this type of use but without a high maintenance level.

Public use is prohibited during commercial use, such as yarding, log haul and rock haul, to avoid safety problems because the road is not designed for mixed traffic.

Public use with highway vehicles is discouraged after the commercial use is completed. This is accomplished by relying on advisory signs and by using trees and brush to camouflage the road entrance and by allowing alder to eventually close the road. This strategy to allow the road to close by alder growth may take ten to fifteen years.

Maintenance Level 1...Basic custodial maintenance is preformed to protect the road investment and to keep damage to adjacent resources to an acceptable level. Drainage facilities and runoff patterns are maintained.

Maintenance Level 2... Management direction requires that this road be open for limited passage of traffic. Drainage structures are maintained to keep functional and prevent unacceptable environmental damage.

Travel Management Strategy

Encourage	Bicycles, hikers and all other non-motorized modes of travel.
Accept	Off-highway vehicles, ATV's, motorcycles.
Discourage	Highway vehicle use after commercial uses.
Prohibit	Public traffic during commercial use.
Eliminate	N/A

ROAD MANAGEMENT OBJECTIVES

ROAD NUMBER: 45800

ROAD NAME: Scarface

Travelway Management Prescription

HIGH CLEARANCE VEHICLES

This road is designed for high clearance vehicles, requiring special driver skills, such as pickup trucks. This road is single lane with some turnouts, backing to allow vehicles to pass is expected. Safety features for mixed traffic are not designed. It will be common for low clearance vehicles to drag bottom from time to time. The objective is to provide a facility safe for this type of use but without a high maintenance level.

Public use is prohibited during commercial use, such as yarding, log haul and rock haul, to avoid safety problems because the road is not designed for mixed traffic.

Public use with highway vehicles is discouraged after the commercial use is completed for the first 0.4 miles, the first rockpit. Accomplish this by relying on advisory signs and by using trees and brush to camouflage the road entrance and by allowing alder to eventually close the road. This strategy to allow the road to close by alder growth may take ten to fifteen years. Beyond the rockpit, general public use by highway vehicles will be eliminated. A barrier, such as an earthen mound or tank-trap will be constructed.

Maintenance Level 1...Basic custodial maintenance is preformed to protect the road investment and to keep damage to adjacent resources to an acceptable level. Drainage facilities and runoff patterns are maintained.

Maintenance Level 2... Management direction requires that this road be open for limited passage of traffic. Drainage structures are maintained to keep functional and prevent unacceptable environmental damage.

Travel Management Strategy

Encourage	Bicycles, hikers and all other non-motorized modes of travel.
Accept	Off-highway vehicles, ATV's, motorcycles up to the rockpit.
Discourage	Highway vehicle use after commercial uses and ATV's and motorcycles beyond the rockpit.
Prohibit	Public traffic during commercial use.
Eliminate	Highway vehicle use beyond first rock pit.

ROAD MANAGEMENT OBJECTIVES

ROAD NUMBER: 45801

ROAD NAME: Scissortail

Travelway Management Prescription

HIGH CLEARANCE VEHICLES

This road is designed for high clearance vehicles, requiring special driver skills, such as pickup trucks. This road is single lane with some turnouts, backing to allow vehicles to pass is expected. Safety features for mixed traffic are not designed. It will be common for low clearance vehicles to drag bottom from time to time. The objective is to provide a facility safe for this type of use but without a high maintenance level.

Public use is prohibited during commercial use, such as yarding, log haul and rock haul, to avoid safety problems because the road is not designed for mixed traffic.

Public use with highway vehicles is discouraged after the commercial use is completed for the first 0.6 miles (rockpit). Accomplish this by relying on advisory signs and by using trees and brush to camouflage the road entrance and by allowing alder to eventually close the road. This strategy to allow the road to close by alder growth may take ten to fifteen years. Beyond the rockpit, general public use by highway vehicles will be eliminated. A barrier, such as an earthen mound or tank-trap will be constructed.

Maintenance Level 1...Basic custodial maintenance is preformed to protect the road investment and to keep damage to adjacent resources to an acceptable level. Drainage facilities and runoff patterns are maintained.

Maintenance Level 2... Management direction requires that this road be open for limited passage of traffic. Drainage structures are maintained to keep functional and prevent unacceptable environmental damage.

Travel Management Strategy

Encourage	Bicycles, hikers and all other non-motorized modes of travel.
Accept	Off-highway vehicles, ATV's, motorcycles up to Mile Post 0.6
Discourage	Highway vehicle use after commercial use and Off-highway vehicles, ATV's, motorcycles beyond Mile Post 0.6
Prohibit	Public traffic during commercial use.
Eliminate	Highway vehicle use beyond first rock pit at mile post 0.6.

ROAD MANAGEMENT OBJECTIVES

ROAD NUMBER: 45803

ROAD NAME: Scoopful

Travelway Management Prescription

HIGH CLEARANCE VEHICLES

This road is designed for high clearance vehicles, requiring special driver skills, such as pickup trucks. This road is single lane with some turnouts, backing to allow vehicles to pass is expected. Safety features for mixed traffic are not designed. It will be common for low clearance vehicles to drag bottom from time to time. The objective is to provide a facility safe for this type of use but without a high maintenance level.

Public use is prohibited during commercial use such as yarding, log haul and rock haul to avoid safety problems because the road is not designed for mixed traffic.

Public use with highway vehicles is discouraged after the commercial use is completed for the first 1.9 miles (junction with 45804 Road). Accomplish this by relying on advisory signs and by using trees and brush to camouflage the road entrance and by allowing alder to eventually close the road. This strategy to allow the road to close by alder growth may take ten to fifteen years. Beyond the junction general public use by highway vehicles will be eliminated. Drainage structures in critical areas at mile post 2.25 and 2.33 will be removed.

Maintenance Level 1...Basic custodial maintenance is performed to protect the road investment and to keep damage to adjacent resources to an acceptable level. Drainage facilities and runoff patterns are maintained.

Maintenance Level 2... Management direction requires that this road be open for limited passage of traffic. Drainage structures are maintained to keep functional and prevent unacceptable environmental damage.

Travel Management Strategy

Encourage	Bicycles, hikers and all other non-motorized modes of travel.
Accept	Off-highway vehicles, ATV's, motorcycles up to Mile Post 1.9
Discourage	Highway vehicle use after commercial use and Off-highway vehicles, ATV's, motorcycles beyond Mile Post 1.9
Prohibit	Public traffic during commercial use.
Eliminate	Highway vehicle use beyond mile post 1.9.

ROAD MANAGEMENT OBJECTIVES

ROAD NUMBER: 45804

ROAD NAME: Scout

Travelway Management Prescription

HIGH CLEARANCE VEHICLES

This road is designed for high clearance vehicles, requiring special driver skills, such as pickup trucks. This road is single lane with some turnouts, backing to allow vehicles to pass is expected. Safety features for mixed traffic are not designed. It will be common for low clearance vehicles to drag bottom from time to time. The objective is to provide a facility safe for this type of use but without a high maintenance level.

Public use is prohibited during commercial use, such as yarding, log haul, and rock haul to avoid safety problems because the road is not designed for mixed traffic.

Public use with highway vehicles is discouraged after the commercial use is completed. Accomplish this by relying on advisory signs and by using trees and brush to camouflage the road entrance and by allowing alder to eventually close the road. This strategy to allow the road to close by alder growth may take ten to fifteen years.

Maintenance Level 1...Basic custodial maintenance is preformed to protect the road investment and to keep damage to adjacent resources to an acceptable level. Drainage facilities and runoff patterns are maintained.

Maintenance Level 2... Management direction requires that this road be open for limited passage of traffic. Drainage structures are maintained to keep functional and prevent unacceptable environmental damage.

Travel Management Strategy

Encourage	Bicycles, hikers and all other non-motorized modes of travel.
Accept	ATV's and motorcycles.
Discourage	Off-highway and passenger vehicle use after commercial use.
Prohibit	Public traffic during commercial use.
Eliminate	N/A

ROAD MANAGEMENT OBJECTIVES

ROAD NUMBER: 45805

ROAD NAME: Scramble

Travelway Management Prescription

HIGH CLEARANCE VEHICLES

This road is designed for high clearance vehicles, requiring special driver skills, such as pickup trucks. This road is single lane with some turnouts, backing to allow vehicles to pass is expected. Safety features for mixed traffic are not designed. It will be common for low clearance vehicles to drag bottom from time to time. The objective is to provide a facility safe for this type of use but without a high maintenance level.

Public use is prohibited during commercial use, such as yarding, log haul and rock haul, to avoid safety problems because the road is not designed for mixed traffic.

Public use with highway vehicles is discouraged after the commercial use is completed. Accomplish this by relying on advisory signs and by using trees and brush to camouflage the road entrance and by allowing alder to eventually close the road. This strategy to allow the road to close by alder growth may take ten to fifteen years.

Maintenance Level 1...Basic custodial maintenance is preformed to protect the road investment and to keep damage to adjacent resources to an acceptable level. Drainage facilities and runoff patterns are maintained.

Maintenance Level 2... Management direction requires that this road be open for limited passage of traffic. Drainage structures are maintained to keep functional and prevent unacceptable environmental damage.

Travel Management Strategy

Encourage	Bicycles, hikers and all other non-motorized modes of travel.
Accept	ATV's and motorcycles.
Discourage	Off-highway and passenger vehicle use after commercial use.
Prohibit	Public traffic during commercial use.
Eliminate	N/A

ROAD MANAGEMENT OBJECTIVES

ROAD NUMBER: 45806

ROAD NAME: Scratch

Travelway Management Prescription

HIGH CLEARANCE VEHICLES

This road is designed for high clearance vehicles, requiring special driver skills, such as pickup trucks. This road is single lane with some turnouts, backing to allow vehicles to pass is expected. Safety features for mixed traffic are not designed. It will be common for low clearance vehicles to drag bottom from time to time. The objective is to provide a facility safe for this type of use but without a high maintenance level.

Public use is prohibited during commercial use, such as yarding, log haul and rock haul to avoid safety problems because the road is not designed for mixed traffic.

Public use with highway vehicles is discouraged after the commercial use is completed. Accomplish this by relying on advisory signs and by using trees and brush to camouflage the road entrance and by allowing alder to eventually close the road. This strategy to allow the road to close by alder growth may take ten to fifteen years.

Maintenance Level 1...Basic custodial maintenance is preformed to protect the road investment and to keep damage to adjacent resources to an acceptable level. Drainage facilities and runoff patterns are maintained.

Maintenance Level 2... Management direction requires that this road be open for limited passage of traffic. Drainage structures are maintained to keep functional and prevent unacceptable environmental damage.

Travel Management Strategy

Encourage	Bicycles, hikers and all other non-motorized modes of travel.
Accept	ATV's and motorcycles.
Discourage	Off-highway and passenger vehicle use after commercial use.
Prohibit	Public traffic during commercial use.
Eliminate	N/A

ROAD MANAGEMENT OBJECTIVES

ROAD NUMBER: 45807

ROAD NAME: Screech

Travelway Management Prescription

HIGH CLEARANCE VEHICLES

This road is designed for high clearance vehicles, requiring special driver skills, such as pickup trucks. This road is single lane with some turnouts, backing to allow vehicles to pass is expected. Safety features for mixed traffic are not designed. It will be common for low clearance vehicles to drag bottom from time to time. The objective is to provide a facility safe for this type of use but without a high maintenance level.

Public use is prohibited during commercial use, such as yarding, log haul and rock haul to avoid safety problems because the road is not designed for mixed traffic.

Public use with highway vehicles is discouraged after the commercial use is completed. Accomplish this by relying on advisory signs and by using trees and brush to camouflage the road entrance and by allowing alder to eventually close the road. This strategy to allow the road to close by alder growth may take ten to fifteen years.

Maintenance Level 1...Basic custodial maintenance is preformed to protect the road investment and to keep damage to adjacent resources to an acceptable level. Drainage facilities and runoff patterns are maintained.

Maintenance Level 2... Management direction requires that this road be open for limited passage of traffic. Drainage structures are maintained to keep functional and prevent unacceptable environmental damage.

Travel Management Strategy

Encourage	Bicycles, hikers and all other non-motorized modes of travel.
Accept	ATV's and motorcycles.
Discourage	Off-highway and passenger vehicle use after commercial use.
Prohibit	Public traffic during commercial use.
Eliminate	N/A

ROAD MANAGEMENT OBJECTIVES

ROAD NUMBER: 45808

ROAD NAME: Screwdriver

Travelway Management Prescription

HIGH CLEARANCE VEHICLES

This road is designed for high clearance vehicles, requiring special driver skills, such as pickup trucks. This road is single lane with some turnouts, backing to allow vehicles to pass is expected. Safety features for mixed traffic are not designed. It will be common for low clearance vehicles to drag bottom from time to time. The objective is to provide a facility safe for this type of use but without a high maintenance level.

Public use is prohibited during commercial use, such as yarding, log haul, and rock haul to avoid safety problems because the road is not designed for mixed traffic.

Public use with highway vehicles is discouraged after the commercial use is completed. Accomplish this by relying on advisory signs and by using trees and brush to camouflage the road entrance and by allowing alder to eventually close the road. This strategy to allow the road to close by alder growth may take ten to fifteen years.

Maintenance Level 1...Basic custodial maintenance is preformed to protect the road investment and to keep damage to adjacent resources to an acceptable level. Drainage facilities and runoff patterns are maintained.

Maintenance Level 2... Management direction requires that this road be open for limited passage of traffic. Drainage structures are maintained to keep functional and prevent unacceptable environmental damage.

Travel Management Strategy

Encourage	Bicycles, hikers and all other non-motorized modes of travel.
Accept	ATV's and motorcycles.
Discourage	Off-highway and passenger vehicle use after commercial use.
Prohibit	Public traffic during commercial use.
Eliminate	N/A

ROAD MANAGEMENT OBJECTIVES

ROAD NUMBER: 45809

ROAD NAME: Scuffle

Travelway Management Prescription

HIGH CLEARANCE VEHICLES

This road is designed for high clearance vehicles, requiring special driver skills, such as pickup trucks. This road is single lane with some turnouts, backing to allow vehicles to pass is expected. Safety features for mixed traffic are not designed. It will be common for low clearance vehicles to drag bottom from time to time. The objective is to provide a facility safe for this type of use but without a high maintenance level.

Public use is prohibited during commercial use, such as yarding, log haul and rock haul, to avoid safety problems because the road is not designed for mixed traffic.

Public use with highway vehicles is discouraged after the commercial use is completed. Accomplish this by relying on advisory signs and by using trees and brush to camouflage the road entrance and by allowing alder to eventually close the road. This strategy to allow the road to close by alder growth may take ten to fifteen years.

Maintenance Level 1...Basic custodial maintenance is preformed to protect the road investment and to keep damage to adjacent resources to an acceptable level. Drainage facilities and runoff patterns are maintained.

Maintenance Level 2... Management direction requires that this road be open for limited passage of traffic. Drainage structures are maintained to keep functional and prevent unacceptable environmental damage.

Travel Management Strategy

Encourage	Bicycles, hikers and all other non-motorized modes of travel.
Accept	ATV's and motorcycles.
Discourage	Off-highway and passenger vehicle use after commercial use.
Prohibit	Public traffic during commercial use.
Eliminate	N/A

ROAD MANAGEMENT OBJECTIVES

ROAD NUMBER: 45810

ROAD NAME: Scurry

Travelway Management Prescription

HIGH CLEARANCE VEHICLES

This road is designed for high clearance vehicles, requiring special driver skills, such as pickup trucks. This road is single lane with some turnouts, backing to allow vehicles to pass is expected. Safety features for mixed traffic are not designed. It will be common for low clearance vehicles to drag bottom from time to time. The objective is to provide a facility safe for this type of use but without a high maintenance level.

Public use is prohibited during commercial use, such as yarding, log haul and rock haul to avoid safety problems because the road is not designed for mixed traffic.

Public use with highway vehicles is discouraged after the commercial use is completed. Accomplish this by relying on advisory signs and by using trees and brush to camouflage the road entrance and by allowing alder to eventually close the road. This strategy to allow the road to close by alder growth may take ten to fifteen years.

Maintenance Level 1...Basic custodial maintenance is preformed to protect the road investment and to keep damage to adjacent resources to an acceptable level. Drainage facilities and runoff patterns are maintained.

Maintenance Level 2... Management direction requires that this road be open for limited passage of traffic. Drainage structures are maintained to keep functional and prevent unacceptable environmental damage.

Travel Management Strategy

Encourage	Bicycles, hikers and all other non-motorized modes of travel.
Accept	ATV's and motorcycles.
Discourage	Off-highway and passenger vehicle use after commercial use.
Prohibit	Public traffic during commercial use.
Eliminate	N/A

ROAD MANAGEMENT OBJECTIVES

ROAD NUMBER: 45906

ROAD NAME: Bluetail

Travelway Management Prescription

HIGH CLEARANCE VEHICLES

This road is designed for high clearance vehicles, requiring special driver skills, such as pickup trucks. This road is single lane with some turnouts, backing to allow vehicles to pass is expected. Safety features for mixed traffic are not designed. It will be common for low clearance vehicles to drag bottom from time to time. The objective is to provide a facility safe for this type of use but without a high maintenance level.

Public use is prohibited during commercial use, such as yarding, log haul and rock haul, to avoid safety problems because the road is not designed for mixed traffic.

Public use with highway vehicles is discouraged after the commercial use is completed. Accomplish this by relying on advisory signs and by using trees and brush to camouflage the road entrance and by allowing alder to eventually close the road. Waterbars, drivable by 4-wheel drive vehicles will be constructed on the steep grade sections. This strategy to allow the road to close by alder growth may take ten to fifteen years.

Maintenance Level 1...Basic custodial maintenance is preformed to protect the road investment and to keep damage to adjacent resources to an acceptable level. Drainage facilities and runoff patterns are maintained.

Maintenance Level 2... Management direction requires that this road be open for limited passage of traffic. Drainage structures are maintained to keep functional and prevent unacceptable environmental damage.

Travel Management Strategy

Encourage	Bicycles, hikers and all other non-motorized modes of travel.
Accept	ATV's and motorcycles.
Discourage	Off-highway and passenger vehicle use after commercial use.
Prohibit	Public traffic during commercial use.
Eliminate	N/A

ROAD MANAGEMENT OBJECTIVES

ROAD NUMBER: 45915

ROAD NAME: Bluff

Travelway Management Prescription

HIGH CLEARANCE VEHICLES

This road is designed for high clearance vehicles, requiring special driver skills, such as pickup trucks. This road is single lane with some turnouts, backing to allow vehicles to pass is expected. Safety features for mixed traffic are not designed. It will be common for low clearance vehicles to drag bottom from time to time. The objective is to provide a facility safe for this type of use but without a high maintenance level.

Public use is prohibited during commercial use, such as yarding, log haul and rock haul, to avoid safety problems because the road is not designed for mixed traffic.

Public use with highway vehicles is discouraged after the commercial use is completed. Accomplish this by relying on advisory signs and by using trees and brush to camouflage the road entrance and by allowing alder to eventually close the road. This strategy to allow the road to close by alder growth may take ten to fifteen years.

Maintenance Level 1...Basic custodial maintenance is performed to protect the road investment and to keep damage to adjacent resources to an acceptable level. Drainage facilities and runoff patterns are maintained.

Maintenance Level 2... Management direction requires that this road be open for limited passage of traffic. Drainage structures are maintained to keep functional and prevent unacceptable environmental damage.

Travel Management Strategy

Encourage	Bicycles, hikers and all other non-motorized modes of travel.
Accept	ATV's and motorcycles.
Discourage	Off-highway and passenger vehicle use after commercial use.
Prohibit	Public traffic during commercial use.
Eliminate	N/A

ROAD MANAGEMENT OBJECTIVES

ROAD NUMBER: 45845

ROAD NAME: Pitapat

Travelway Management Prescription

HIGH CLEARANCE VEHICLES

This road is designed for high clearance vehicles, requiring special driver skills, such as pickup trucks. This road is single lane with some turnouts, backing to allow vehicles to pass is expected. Safety features for mixed traffic are not designed. It will be common for low clearance vehicles to drag bottom from time to time. The objective is to provide a facility safe for this type of use but without a high maintenance level.

Public use is prohibited during commercial use, such as yarding, log haul and rock haul, to avoid safety problems because the road is not designed for mixed traffic.

Public use with highway vehicles is discouraged after the commercial use is completed. Accomplish this by relying on advisory signs and by using trees and brush to camouflage the road entrance and by allowing alder to eventually close the road. This strategy to allow the road to close by alder growth may take ten to fifteen years.

Maintenance Level 1...Basic custodial maintenance is performed to protect the road investment and to keep damage to adjacent resources to an acceptable level. Drainage facilities and runoff patterns are maintained.

Maintenance Level 2... Management direction requires that this road be open for limited passage of traffic. Drainage structures are maintained to keep functional and prevent unacceptable environmental damage.

Travel Management Strategy

Encourage	Bicycles, hikers and all other non-motorized modes of travel.
Accept	ATV's and motorcycles.
Discourage	Off-highway and passenger vehicle use after commercial use.
Prohibit	Public traffic during commercial use.
Eliminate	N/A

Appendix E

Northern Goshawk Interim Guidelines

INTERIM HABITAT MANAGEMENT RECOMMENDATIONS FOR THE NORTHERN GOSHAWK

Tongass National Forest

1992

Purpose

To provide interim management recommendations that will sustain goshawk nesting habitats and retain management options on the Tongass National Forest while achieving Tongass Land Management Plan goals.

Application

Interim goshawk habitat management recommendations apply where land management activities may affect goshawk nesting habitat or reproductive activity in FY 92. All activities are to be considered with the exception of timber harvest units released and under contract or activities included in formal agreements or other contracts.

The interim management recommendations have been developed with limited information concerning goshawk nesting habitat requirements in Southeastern Alaska, yet reflect known factors about goshawk ecology. These management recommendations will be evaluated at the end of 1992 with respect to effectiveness towards sustaining goshawk nesting habitats and retaining options for national forest management. Field line officers are responsible for implementation.

Northern Goshawk Management Area

The Northern Goshawk Management Area consists of three components:

1. Nest Area (NA):

The nest, nest tree, and approximately 20-30 forested acres surrounding the nest tree that includes prey handling areas, perches, and roosts. Stand structure should provide trees to support nest structures, a stable micro-environment, and protection from predators. NA's will be established for active nests and will be considered for sites where there is evidence or reproductive behavior or for inactive nests.

Vegetative Description:

- * A 20-30 acre contiguous stand composed of single-storied trees of a uniform size (usually 20+ inches DBH), a closed canopy (60% or greater), and low ground vegetation. This stand is generally centered around the nest tree.

Habitat Management:

- * No vegetative manipulation.
- * No prolonged (i.e. greater than 3 days) mechanical activity (e.g., drilling, blasting, sawing, yarding) is permitted within 600' of active NA's from March 15 to September 1. Activity restrictions are removed after June 30 for active nests that become inactive or unsuccessful.

2. Post Fledging Area (PFA):

An area surrounding the NA where fledged young goshawks concentrate their activities until no longer dependent on adults for food. The PFA provides young hawks hiding cover from predators and prey to develop hunting skills before juvenile dispersal from the nesting area. The PFA is generally 600 acres and includes all NA's, hiding cover, prey species, and foraging opportunities for young goshawks. The PFA contains a variety of forest conditions and closely resembles the existing forest structure in NA's.

Vegetative Description:

- * A nearly contiguous stand (approximately 600 acres) of trees which have the potential for highly used habitat for fledglings. The most important stands are those with structure similar to the nesting area. Moderately important stands to include in the PFA are those which have a closed canopy but contain moderate amounts of intermediate canopy. Stands with an open canopy and high amounts of intermediate canopy would be less important, but can be included in the PFA for contiguous habitat. Open, treeless muskegs are less valuable habitat, but can be included in the PFA where the distance across such muskegs is 600 feet or less. The PFA is generally centered around active Nest Areas, but habitat type is more important than the nest area being in the center of the PFA. Up to 5 percent of the PFA stands may have a height structure of 15 feet or less. Acreages of forest which provide for other resource concerns (such as Riparian and Estuary/Beach Fringe buffers and/or high hazard soils) should be included in the PFA where possible.

Habitat Management:

- * Timber harvest can occur, but harvest should be planned in less important habitat types where possible.
- * Opening size resulting from timber harvest should not exceed 20 acres. However, exceptions to this can occur if harvest unit design provides for a configuration that does not exceed 600 feet in width.

3. Foraging Area (FA):

The area used by young and adult goshawks to meet their food requirements. FA's should be planned for 6,000 acres. The goshawk is an opportunistic forager and the FA may contain a mosaic of habitat types. At least 20 percent should be in stands which meet the most important or moderately important habitat structure. The size of the FA depends on habitat quality and arrangement of forest and openings that contributes to prey productivity and foraging opportunities.

Interim Direction

Inventory:

1. Conduct inventories of suitable habitat, meeting NA forest structure characteristics, to determine if nesting goshawks are present in a project area proposed for land management activities during the FY92 field season.
2. Conduct searches to locate the active and all alternate nests if goshawks are observed or evidence of reproductive sites is documented.
3. Follow inventory methodology outlined in "Alaska Region Goshawk Inventory Protocol for 1992."

Management Direction:

1. A GIS analysis of the habitat conditions of the 6,000 acre circular foraging area will be conducted to evaluate habitat composition.
2. Map the location of all active and identified inactive nests, NA's, PFA, and FA boundaries.

Monitoring

1. District Rangers are responsible for layout and field application of Nest Areas, PFA's, and Foraging Areas as designed to insure that mapped areas meet goshawk nesting habitat objectives;
2. District Rangers will establish monitoring programs for each active goshawk nest through the nesting season to determine if the nest was successful and the number of young fledged.

Annual Reporting

Tongass Forest Supervisors will submit a Goshawk Management Report to the Regional Goshawk Coordinator by Nov. 1, 1992. This report will contain:

1. Results of all goshawk inventories (Inventory Data Forms);
2. Information concerning all sites where evidence of goshawk reproductive activity was detected (Nest Monitoring Data Forms);
3. A summary of each situation where these Interim Goshawk Management Recommendations were applied that may include:
 - a description of factors analyzed to apply or not apply habitat management recommendations at sites where evidence of nesting activity was identified but no nest was located;
 - results of searches for inactive nests;
 - mapped (e.g., 4"/mile air photo) location of all identified nests, delineated Nest Areas, PFA's and Foraging Areas and habitat composition of each area (possibly GIS analysis);
 - summary of any restrictions on management activity resulting from application of these habitat management recommendations; and
 - summary of monitoring frequency and results.

The Regional Goshawk Coordinator will summarize these reports and submit to the Forest Supervisors.

Appendix F

Public Comments to Draft EIS and Forest Service Responses



Appendix F

Comments on Draft EIS and Forest Service Response

Commenting Person or Group	Date	Page
(#1) Kerry Beebe	22 Nov 1993	2
(#2) David Kensinger and Mona Christian	4 Nov 1993	5
(#3) Charlotte Tanner	25 Oct 1993	8
(#4) Richard D. Uberuaga	25 Aug 1993	11
(#5) Southeast Alaska Conservation Council	7 Oct 1993	14
(#6) Narrows Conservation Coalition	25 Feb 1993	17
(#7) National Oceanic and Atmospheric Administration	21 Sep 1993	23
(#8) U.S. Department of Interior	15 Oct 1993	26
(#9) Alaska Division of Governmental Coordination	6 Dec 1993	36
(#10) City of Kupreanof	22 Nov 1993	75
(#11) Michael Medalen	10 Nov 1993	79
(#12) Kris Norosz	20 Nov 1993	83
(#13) Dr. and Mrs R. E. Sprague	16 Nov 1993	87
(#14) Alaska Women in Trees, Society of American Forest Dwellers	18 Nov 1993	90
(#15) Mike Pilling	21 Nov 1993	103
(#16) Narrows Conservation Coalition (NCC)	18 Oct 1993	105
(#17) U.S. Environmental Protection Agency	10 Feb 1994	136

Letter #1

Comments on the Shamrock Timber Sale.

From Kerry Beebe Box 148 Petersburg AK
(907) 772-3357

Attn: Ron Backelman, EA Engineering (907) 869-2061

- 1 [• The Forest Service is conducting the Shamrock Timber Sale without an area analysis as required by TLMP.
- 2 [• The Forest Service is ignoring the Tongass Timber Reform Act or TTRA in the proportionality rule. Even though KPC will likely buy the sale offering.
- 3 [• The Viable Populations Committee report is not part of
- 4 [the planning process. There are no habitat retention areas. This needs to be corrected.
- 5 [• The Forest Service plans to cut all the Commercial Forest Lands (CFL) on the Island in the next 30-50 years.
- 6 [• The Forest Service is claiming there will be no significant restriction of subsistence opportunities based on the belief that habitat is marginal. There is information from biologists to suggest otherwise. Locals disagree with FS reports as well.
- 7 [• Every one of these sales is deficit. They do not enhance the local long term health of the area either economically or environmentally.
- 8 [• There is a total disregard of native logging in the Forest Service report on cumulative affects.

RECEIVED

Kerry Beebe

NOV 22 1993

EA Engineering Science & Technology
Northwest Operations
NOV 22 1993 12:51

206 328 6101

P.001

COMMENTS TO SHAMROCK DEIS AND FOREST SERVICE RESPONSES

Letter From Kerry Beebe (#1)

Comment 1-1

The Forest Service is conducting the Shamrock Timber Sale without an area analysis, as required by TLMP.

Response 1-1

It's true that the 1985/86 Tongass Forest Plan Amendment requires NEPA-based, mid-level Area Analyses, resulting in appealable decisions. However, since 1989, National Forest Service policy has provided for only two levels of NEPA analysis and decision-making: the Forest Plan and projects (2/6/89 Overbay memo). As a result, the 85/86 amendment contradicts national policy. The Tongass is currently working on a Forest Plan Revision that will remove the requirement for NEPA-based area analysis. This will make the Forest Plan consistent with national direction.

At the same time, we recognize the value of mid-level analyses to help identify landscape dynamics and possible projects. The Stikine Area is currently conducting a mid-level analysis on Kupreanof Island.

Comment 1-2

The Forest Service is ignoring the TTRA in the proportionality rule, even though KPC will likely buy the sale offering.

Response 1-2

The TTRA requirement for a proportionality test is only applicable on long-term sale offerings. If the Shamrock sale(s) were to be offered to a long-term contract holder, a proportionality analysis would be required and performed by the Forest Service after the ROD on Shamrock.

Comment 1-3

The Viable Populations Committee report is not part of the planning process.

Response 1-3

The recommendations of the Viable Population Committee were discussed in the Biodiversity section of the DEIS and are retained in the FEIS. These recommendations are still in draft form and have not as yet been adopted by the Forest Service as official guidelines.

Comment 1-4

There are no habitat retention areas. This needs to be corrected.

Response 1-4

Areas to be managed as old-growth habitat throughout the life of the Shamrock project are now described in the FEIS.

Comment 1-5

The Forest Service plans to cut all the commercial forest lands (CFL) on the island in the next 30-50 years.

Response 1-5

The original statement on Page 4-14 in the DEIS was incorrect and the FEIS has been revised accordingly. Under Alternative P of the Draft Revision of TLMP, this process is projected to occur over a 15 decade period. Over the next 50 years,

approximately 11,000 acres are anticipated to be harvested and converted into even-aged second-growth stands.

Comment 1-6

The Forest Service is claiming there will be no significant restriction of subsistence opportunities based on the belief that the habitat is marginal. There is information from biologists to suggest otherwise. Locals disagree with Forest Service reports as well.

Response 1-6

The Forest Service is no longer claiming there will be no significant restriction of subsistence opportunities. Refer to the revised Subsistence section of Chapter 4 in the FEIS.

Comment 1-7

Every one of these sales is deficit. They do not enhance the long-term health of the area either economically or environmentally.

Response 1-7

The estimated deficit shown in the mid-market appraisal is based on a ten year average of market prices that experience wide fluctuations. The general tendency for prices is to increase at the rate of inflation, plus some real price increases. The purpose of the mid-market appraisal is to show the relative efficiency between alternatives. The Forest Service is governed by regulations which establish minimum rates for species and species groups. Timber cannot be advertised and sold below these rates. If there are no bids for timber at or above these rates than no timber sale contract is awarded. When an independent timber sale is awarded, a negative net return (after reimbursement for the costs of specified roads) is a risk borne by the purchaser, not the Forest Service.

As stated in Chapter 1 of the FEIS, the purpose and need of the Shamrock timber sale(s) is to meet the goals and objectives for timber supply established in the Forest Plan and Forest Plan Revision. The timber industry is a major component of the Southeast Alaska economy, and the Shamrock sale(s) is part of the Forest Service's commitment to the timber industry.

Also see response to Comment 11-1.

Comment 1-8

There is a total disregard of Native logging in the Forest Service report on cumulative effects.

Response 1-8

Data on Native logging on Kupreanof Island are difficult to obtain. We have included as much information as we could in the FEIS. Because of the distance of the Native logging from the Shamrock area (approx. 20 miles), the contribution of Native logging in the cumulative effects for the Shamrock sale are difficult to quantify.

Dear Sirs,

My comments during the Totem timber sale are still relevant for this sale. The Castle River Drainage "Wild River" status should be completed before sale planning continues. At the time you directed us to the TLMP process. You stated no action would proceed until that document resolved the management questions of the river's status. My question at this time is under what planning document is this sale being directed?

The integrity of the river drainage should not be compromised by placing any units in the riparian areas--specifically units #83,#43,#20,#82,and #15 should be deleted or re-configured to not fall below 600ft in elevation. This would allow the sale to continue without compromising the Castle river drainage.

I know the general argument against this is that the economics of the sale would not be favorable. A good point-where are the economics in accessing low value timber with a high percentage of pulp logs. It seems if the trunk road is necessary to access other sales to the south than those sales should justify the expense of the road. The units that do not conflict with the 600ft could defray the cost of the trunk road. This would allow the stated objectives to be accomplished without forcing the management's direction by default. The resources that are present in this drainage system will return many dollars to the local economy without causing a drain on the federal purse.

I am intrigued by the KV funds that would be available to offer recreational activities. Many areas particularly the lower Castle trail, which is heavily used is in poor repair due to the lack of maintenance dollars. How will these new facilities be maintained if we do not have funds to maintain what we have now.

On examination of the Tonka sale and the associated sales in that area I noticed an extreme amount of blow down and a near complete destruction of the stream cut asides.

At the time I was informed that all state of art planning was used to prevent this from occurring. My point is what is different from these lay outs versus the lay outs in the Ohmer creek and Mitchel slough areas. It seems that the management direction should be one of extreme caution.

David Kensinger

[illegible]

David Kensinger and Mona Christian (#2)

Comment 2-1

The Castle River Drainage "Wild River" status should be completed before the sale planning continues. At the time you directed us to the TLMP process. You stated no action would proceed until that document resolved the management questions of the river's status. My question at this time is under what planning document is the Shamrock sale being directed?

Response 2-1

The Shamrock sale is under the planning direction of the Tongass Land Management Plan (TLMP) signed in 1979 and amended in 1986. However, in recognition of the proposed revision of the TLMP, consideration was given to recent wild and scenic river eligibility findings. The preferred alternative (Alternative 5) does not include any roads or harvest units within the 1/4 mile study corridor of any rivers in the Shamrock sale area that have been found eligible for inclusion in the national wild and scenic river system (including Castle River). All alternatives protect the eligibility and classification of Castle River, Irish, Keku, and Tunehean Creeks. No foreseeable effects would preclude their potential recommendation for wild and scenic river designation.

Comment 2-2

The integrity of the (Castle) river drainage should not be compromised by placing any units in riparian areas; specifically, Units 83, 43, 20, 82, and 15 should be deleted or reconfigured to not fall below 600 feet elevation. This would allow the sale to continue without compromising the Castle River drainage.

Response 2-2

Protecting the integrity of the riparian zone on the Castle River does not require exclusion of all logging below the 600 feet elevation level. The effects of harvest activities on riparian habitat are discussed in the Fish section of Chapter 4.

Comment 2-3

The economics of accessing low-value timber with a high percentage of pulp logs are in question. The costs of the main trunk road (6314) should be shared by other timber sales to the south to better justify these costs and make the Shamrock timber sale more favorable economically. Units below the 600 foot level should be able to defray the road costs. (paraphrased)

Response 2-3

We agree that it would be desirable for other timber sales to the south to bear some of the cost of the main trunk road (6314). However, the roads are required for this sale. The decision-maker and reader should be aware that this road could be used for other projects, as well as other uses than log hauling and harvest unit access. See response to Comment 2-2 regarding 600 foot zone.

Comment 2-4

How will these new facilities (proposed under K-V Funds) be maintained, if we do not have funds to maintain what we have now.

Response 2-4

New recreation facilities developed through the use of K-V funds will become part of the existing recreation resource program. Maintenance of these facilities will be handled in the same fashion as other recreation amenities in the Petersburg District. Annual budget requests for appropriate maintenance funds will include consideration of these new facilities. Your point of poor maintenance is well taken and is a recurring problem with remote facilities.

Comment 2-5

Blowdown has resulted in near complete destruction of the stream buffers on the Tonka sale. What is different about the buffer design in this sale that will prevent blowdown in buffers from occurring? (paraphrased)

Response 2-5

Blowdown can never be eliminated, but the probability of it occurring can be reduced. The amount of blowdown is difficult to predict because many factors, including the size and density of the buffer trees, elevation, aspect, soil types, and the frequency and severity of storms, all affect the magnitude of blowdown.

The Tonka Sale was laid out prior to TTRA. Blowdown in this area has not been what could be considered extreme. It is difficult to respond in more detail to your comment without knowing the exact areas being discussed.

10-25-93
FILE COPY

Ron Bockelman

EA Engineering, Science & Technology

8520 154th Ave N.E.

Redmond, WA 98052

RECEIVED

OCT 28 1993

Dear Mr. Bockelman:

EA Engineering, Science, and Technology
Redmond, WA

I would like to comment on the DEIS for the Shamrock Timber Sale(s). There are a number of points I would like to express.

1. I don't want to see any logging in the tributaries of The Castle River.
- 2a. 2. The deer will not only suffer from loss of habitat but will fall prey to wolves due to the "cafeteria effect" of the logging roads. I believe there will be a much greater impact on the subsistence harvest than is claimed in the DEIS.
- 2b. 3. It is totally inappropriate to have logging in the Castle River Wild & Scenic River corridor.
3. 4. There are no retention areas designated or identified in the DEIS. There should be specifically designated areas. Somehow these always get "forgotten".
- 4

- 5 [5. Logging units should be located on the
edges of large blocks of old growth so
as to reduce fragmentation.
- 6 [6. There should be no logging allowed in
Goshawk foraging areas.

Thank you for reading my comments.

Sincerely,

Charlotte Tanner

PO 886

Ward Cove, AK 99928

(formerly PO 602, Petersburg, AK)

Charlotte Tanner (#3)

Comment 3-1

I don't want to see any logging in the tributaries of the Castle River.

Response 3-1

All action alternatives considered in this DEIS include what we consider to be minimal timber harvest within tributary drainages of the Castle River. The limited extent and upstream location of these harvest areas should prevent any significant negative impacts to fisheries or water quality within the Castle River system. See also response to comment 2-2.

Comment 3-2a

The deer will not only suffer from loss of habitat but will fall prey to wolves due to the "cafeteria effect" of the logging roads.

Response 3-2a

FEIS text has been revised with this comment in mind.

Comment 3-2b

I believe there will be a much greater impact to subsistence than is claimed in the DEIS.

Response 3-2b

We agree. Refer to the revised Subsistence section in Chapter 4 of the Shamrock FEIS.

Comment 3-3

It is totally inappropriate to have logging in the Castle River Wild and Scenic River Corridor.

Response 3-3

Road construction and timber harvest within the wild and scenic river corridor (one quarter mile on each side of the river) would not be permitted unless it is determined that Castle River is no longer suitable for inclusion into the wild and scenic river system. This decision would have to be made through an amendment or revision of the forest plan.

Comment 3-4

There are no retention areas designated or identified in the DEIS. There should be specific designated areas.

Response 3-4

Areas to be managed as old-growth habitat throughout the life of the Shamrock project are described in the Wildlife section of Chapter 4 in the FEIS.

Comment 3-5

Logging units should be located on the edges of large blocks of old-growth so as to reduce fragmentation.

Response 3-5

In laying out harvest units, locating units along the edges of old-growth blocks was an important consideration and was done so when reasonably possible.

Comment 3-6

There should be no logging allowed in goshawk foraging areas.

Response 3-6

A 6,000 acre goshawk management area was established around the known nesting location in the northern Shamrock area. The approximately 50 acres of old-growth forest in Unit NI9 on the perimeter of the foraging area is consistent with the Interim Goshawk Guidelines (see Appendix E).

LETTER #4

19 N
PR

PLANNING RECORD

NO. 30663

RECEIVED

AUG 25 1993

SA Engineering, Science, and Technology
Redmond, WA

FILE COPY

Dear Sirs:

1a Enclosed please find my comments regarding the Shamrock Timber Sale EIS. I am deeply concerned over the shallow, non-quantitative analysis that you have presented regarding the fisheries resources. First, what makes you think 100 foot buffers are adequate? How do these prescriptions compare to those Riparian Habitat Conservation Area prescriptions recently developed by one of President Clinton's Forest Ecosystem working committees? Your casual treatment of class III streams is deplorable. You state that there are short-term impacts. HOW short term? "The extent to which harvest would increase temperature in unknown"....Why is this unknown? What is your environmental baseline? Have you done any modeling? Why not? Just how is it that you discount any potential downstream thermal loading from your clearcutting of the Class III streams? You intend to minimize bank disturbance and in-channel activities! How minimal? How do you intend to do this? You didn't propose any Class III protection because you DID NOT EXPECT TO ADVERSELY IMPACT WATER TEMPERATURES IN DOWNSTREAM AREAS? How in god's name did you arrive at this conclusion?

2 What are the cumulative effects currently within the subject watersheds?
3 How much road has previously been built? How much clearcut exists? How old are these clearcuts? Where are your sensitive soils within the drainages and what
4a is there proximate relation to key fish habitats? Where are the key habitats?
4b Why don't you know if Big John Creek has temperature sensitive sections?

5 In summary, this analysis is woefully inadequate. You are operating as if this is a private tree farm and you are telling us, the public owners of these resources, "Well, we think that there will be a little dirt in the crick, but it won't amount to much and WE DON'T THINK IT'LL HURT ANYTHING". This poorly prepared (I can't call it an analysis) document REALLY, REALLY, REALLY, needs some work before you can begin to assess any potential impacts from the various proposed alternatives. Anything else is just a joke.

Thank you for this opportunity to comment.

Richard D. Uberuaga
Box 204
McCall, Idaho 83638

cc. Alaska Department of Fish and Game, Juneau
Gail Kimbell, Stikine Area Forest Supervisor

Richard D. Uberuaga (#4)

Comment 4-1a

Why do you think 100 foot buffers along streams are adequate and how do these prescriptions compare to the Riparian Habitat Conservation Area prescriptions developed by one of President Clinton's Forest Ecosystem working committees? (paraphrased)

Response 4-1a

The best width for stream buffers is currently being evaluated by researchers in the Pacific Northwest. Until a scientific consensus on this issue is reached, management guidance for the Tongass National Forest is to use the buffer widths specified in the Tongass Timber Reform Act (TTRA). TTRA buffers are probably wider than they need to be on small streams and smaller than they need to be on the larger portions of rivers. Overall, however, these buffer widths are likely to do a good job of protecting streams and rivers within the analysis area.

President Clinton's Forest Ecosystem Management Action Team (FEMAT) has not yet provided clear guidance on stream buffer widths. Initial proposals by FEMAT have indicated 300 foot buffers may be required for streams and rivers containing at risk stocks of salmon and steelhead.

Comment 4-1b

Your casual treatment of temperature effects on Class III streams is deplorable. How short-term are the impacts? Why is the extent of temperature effects of harvest unknown? Was any modeling of temperature effects conducted? How is it that you discount potential downstream thermal loading from clearcutting of Class III streams? (paraphrased)

Response 4-1b

The inability to accurately predict temperature increases following harvest reflects both an incomplete scientific understanding of this issue and the unpredictability of weather during the recovery period. The temperature modeling methodology currently used in Tongass National Forest requires considerably more information (for example, seasonal discharge and velocity measurements) than is gathered for an environmental impact statement. However, even if this analysis was done, the results would be little better than speculation because of uncertainty in the model and because the impact of harvest on water temperatures depends on air temperatures during the 4-5 year recovery period, which no one can predict with accuracy.

Despite this inability to accurately predict temperature increases, several generalizations can be made. First, there is good evidence that the lower, mainstem portions of Castle River, Keku Creek, and Tunehean Creek already develop temperatures in excess of 64°F. Second, harvest within these drainages will expose some Class III streams to sunlight, which will increase water temperatures in these areas. Third, these increased water temperatures have the potential to increase downstream water temperatures.

The DEIS concluded that these temperature increases will not negatively impact downstream temperatures because the total mileage of Class III streams exposed to harvest is so low (1.93 to 3.86 miles) in comparison to the total stream mileage within the study area 309 miles. In addition, even if temperature increases did develop, they would only persist until regrowth began to shade exposed areas. Given the small width of most Class III streams, this is expected to take 4-5 years.

The fisheries sections of Chapter 3 and Chapter 4 of the EIS have been revised to more explicitly discuss temperature increases.

Comment 4-2

What are the cumulative effects currently within the subject watersheds?

Response 4-2

Watershed cumulative effects were thoroughly analyzed in the Watershed section of Chapter 4 in the DEIS and have not been changed in the FEIS.

Comment 4-3

Where are sensitive soils in the drainages and where are they in relation to key fish habitats? (paraphrased)

Response 4-3

Areas mapped as High and Extreme Hazard Soils (Class 3 and 4, respectively) are shown in Figure 3-5. See response to comment 4-4 with regard to fish habitat.

Comment 4-4a

Where are the key (fish) habitats?

Response 4-4a

This meaning of this question is unclear. All Class I and Class II streams within the analysis area are considered key fish habitats.

Comment 4-4b

Why don't you know if Big John Creek has temperature sensitive sections?

Response 4-4b

See response to Comment 4-1b.

Comment 4-5

...this analysis is woefully inadequate.

Response 4-5

We believe this analysis to be a thorough assessment of the issues and impacts associated with the Shamrock timber sale(s).

Southeast Alaska Conservation Council

SEACC 419 Sixth Street, Suite 328 Juneau, Alaska 99801 (907) 581

October 7, 1993

Abigail R. Kimbell
Forest Supervisor, Stikine Area
United States Forest Service
PO Box 309
Petersburg, AK 99833

PLANNING RECORD NO. 31910

Dear Abigail:

Upon reviewing the Draft Environmental Impact Statement (DEIS) for the Shamrock Timber Sale(s) on the Stikine Area, we discovered that six (6) clearcuts are proposed that exceed the 100 acre size limitation for the hemlock-sitka spruce forest type of coastal Alaska. See DEIS at p. 4-5; 36 C.F.R. sec. 219.27(d)(2)(setting clearcut unit size limitations for all national forests).. The letter to reviewers accompanying the DEIS, however, identified only one (1) clearcut unit which exceeded the 100 acre size limitation.

According to regulations implementing the National Forest Management Act, and the Alaska Regional Guide, clearcuts exceeding the 100 acre size limitation for coastal Alaska "are permitted on an individual timber sale basis after 60 days public notice" See 36 C.F.R. sec. 219.27(d)(2)(ii) (emphasis added); Alaska Regional Guide at p. 3-20 (Nov. 1983). Neither the notice of availability provided in the Federal Register, 58 Fed. Reg. 45338 (Aug. 27, 1993), nor the letter to reviewers accompanying the DEIS, provided the public a complete and accurate notice of the agency's proposal to exceed size limits, or informed the public that they were legally entitled to sixty (60) days notice. In fact, the letter to reviewers not only misleads the public regarding the number of oversized units proposed in the DEIS, it also unlawfully limits the notice to "... 45 days from the date on which notice of availability of the Draft EIS is published in the Federal Register."

The lack of appropriate notice for reviewing proposed clearcuts that exceed regulatory size limits, harms the interests of SEACC, our member groups and members, and nearby local communities because:

- 1) approximately 95 percent of the Shamrock area is currently roadless;
- 2) the Forest Service proposes at least three other timber sales within or adjacent to the Shamrock area in the coming decade;
- 3) the Stikine Area has not conducted an appropriate Area Analysis as required under existing forest management direction for the Tongass; and,

PELICAN FORESTRY COUNCIL • FRIENDS OF BERNERS BAY, Juneau • WRANGELL RESOURCE COUNCIL • SITKA CONSERVATION SOCIETY
FALSE ISLAND-KOOK LAKE COUNCIL, Tenakee Springs • LYNN CANAL CONSERVATION, Haines • TAKU CONSERVATION SOCIETY, Juneau
NARROWS CONSERVATION COALITION, Petersburg • FRIENDS OF GLACIER BAY, Gustavus • TONGASS CONSERVATION SOCIETY, Ketchikan
ALASKA SOCIETY OF AMERICAN FORESTDWELLERS, Point Baker • JUNEAU GROUP SIERRA CLUB • YAKUTAT RESOURCE CONSERVATION COU
PRINCE OF WALES CONSERVATION LEAGUE, Craig • ALASKANS FOR JUNEAU

October 7, 1993

Abigail R. Kimbell

October 7, 1993

Page - 2

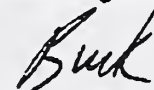
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4) the lack of an adequate landscape-level effects analysis for Kupreanof Island precludes the public from assessing, for example, how the proposed oversized clearcuts will impact distribution of wildlife species between the north and south portions of the island.

For these reasons, we request that the Forest Service immediately re-issue the public notice of availability for the Shamrock DEIS to correct the unlawful, incomplete and inaccurate notice provided the public. This notice should provide complete public notice of all proposed clearcuts exceeding 100 acres in the Shamrock area, and toll the beginning of the 60 day notice requirement from the date the revised notice of availability is published or mailed to the public.

Please respond to this request in writing by October 13, 1993.

Best Regards.



Robert E. Lindekugel

Staff Attorney

cc: Narrows Conservation Coalition
City of Kupreanof
Organized Village of Kake
City of Kake

Southeast Alaska Conservation Council (#5)

Comment 5-1

The letter to reviewers accompanying the DEIS was misleading because it describes only one clearcut unit greater than 100 acres when in fact there are six such clearcuts proposed. (paraphrased)

Response 5-1

As the letter of October 13, 1993 from Abigail Kimball to you stated, the letter to reviewers accompanying the DEIS was intended as a short introduction to the document and was not intended to mislead the public. As the letter also stated, Unit 28 is referenced in the context of the preferred alternative so the reviewer is made aware that approval by the Regional Forester is required for this unit. Of the six units over 100 acres (Units 13, 28, 31, 32, 36, 61) only two are over 150 acres (Units 28 and 32). The review period was extended until November 22, 1993, providing a total review period of 88 days.

Comment 5-2

The 45 review period for the Shamrock DEIS is not adequate; the review period should be 60 days as required by the National Forest Management Act when units over 100 acres are being harvested. (paraphrased)

Response 5-2

The review period for the Shamrock DEIS was extended from October 18 to November 22, 1993, increasing the review period from 53 to 88 days. This action was not mandatory, since no decision was being made on these units. The decision will be made after the FEIS is published.

Comment 5-3

The Stikine Area has not conducted an appropriate Area Analysis...as required under existing forest management direction for the Tongass...

Response 5-3

See response to comment 1-1.

Comment 5-4

...the lack of an adequate landscape-level effects analysis for Kupreanof Island precludes the public from assessing, for example, how proposed oversized clearcuts will impact distribution of wildlife species...

Response 5-4

We agree that landscape-level effects are important to consider with regard to timber harvesting on Kupreanof Island as a whole. Although such an analysis is useful, it is argumentative to state that it precludes the public from assessing impacts.

LETTER #6

19 N
PR

NARROWS CONSERVATION COALITION

P.O. Box 1331, Petersburg, Ak. 99833

February 25, 1993

Patricia Grantham
Petersburg Ranger District
USDA Forest Service
P.O. Box 1328
Petersburg, Ak. 99833

Bob 3D
Cynthia CES

PLANNING RECORD

NO. 5062

re. Shamrock and Douglas Timber Sales

Dear Ms. Grantham:

Narrows Conservation Coalition has received a copy of your response to the Alaska Society of American Forest Dwellers (SAFD, 12/7) concerning the Douglas Timber Sale on South Kupreanof Island. We would like to comment on your response.

General Comments:

Issues addressed in this letter are applicable to both the Douglas and Shamrock Timber Sales. For this reason please publish all public comments and specifically address these comments with written reply in planning documents for both timber sales.

Concern 1: Wild and Scenic Rivers:

1 You responded that the required minimum buffer is 1/4 mile on each side of the river as specified in the Wild and Scenic River Act. A fact your agency is consistently ignoring is that there is strong precedence in ANILCA for 1/2 mile buffers on each side of wild and scenic rivers. Comments made by American Rivers, SEACC, and others to the Supplemental Draft TLMP revision support the ANILCA precedence for such buffers. Rather than ignore this subject we would like to see a full discussion of the 1/4 vs. 1/2 mile issue in your upcoming documents. In addition Forest Planners are now protecting the entire river rather than just the mainstem of the river, i.e., tributaries. In the case of Kah Sheets Creek and Lake we believe the ORV's will be degraded if the entire river system is not protected. (See our comments in a letter dated 2/8/93 to IDT leaders).

Concern 5: Proportionality Guidelines:

Your response concerning the lack of proportionality guidelines for independent timber sales inferred a double standard regarding the timber purchaser. When

Congress passed the Tongass Timber Reform Act (TTRA) proportionality guidelines, their intent was to manage the forest on a sustained yield basis. TTRA Section 301(c) paragraph 2 prohibits "highgrading," and "represents one of the most critical reforms in both the long term contracts and Forest Service management practices." (Congressional Record, No.149-Part III).

Reforms cited in 301(c) were to be applied to independent timber sales via 301(f) which:

"requires the Secretary to take other actions necessary, beyond modifying the contracts, to bring management of the Tongass into conformance with this section."

We also refer you to Representative George Miller's floor statement to the U.S. House of Representatives, prior to passage of the Tongass Timber Reform Act:

"Section 301(f) is an important directive to the Forest Service to take any other actions necessary, beyond revisiting the text of the long term contracts, to change management practices to be consistent with this section. For example, high-grading should be stopped, whether by the long term contract holders, or by independent operators. [emphasis added] [Cong. Record, Vol. 136, No. 149-Part III, October 26, 1990]"

The intent of Congress was to extend the no-highgrading provision to all timber sales on the Tongass, not just to those of the long term contract holders.

2

The basic standard should always be that "good" forest practices such as proportionality guidelines are applicable to all areas of the Tongass, regardless of whether they fall into long-term or independent contract sale areas. Proportionality guidelines represent the most fundamental of forest management standards. To ignore no high-grading rules is an embarrassment to ethical forest management. The no-high grading provision should apply to this sale as well as any other on the Tongass.

Concern 8: Market Demand:

We appreciate the inclusion of the FS report "Status of the Tongass National Forest, Fiscal Year 1989" (August, 1990) in your response to the SAFD. The inclusion of this report however does little to satisfy the public's concern regarding compliance with Section 101 of the TTRA which requires, in part, that the Forest Service "seek to provide a supply of timber from the Tongass National Forest which (1) meets the annual market demand for timber from such forest and (2) meets the market demand from such forest for each planning cycle. This requirement shows that Congress recognized that market demand is a dynamic, ever-evolving level and wanted the Forest Service to justify each particular sale, as well as the Allowable Sale quantity (ASQ), in terms of "market demand." Any study must assess "demand" as a price-

quantity relationship as required by the agency's NFMA planning regulations. See 36 C.F.R. Section 219. 12 (e) (3).

A demand study must be more than a consumption study. It is incorrect to measure and project how much timber local mills will consume at unspecified prices or prices sufficiently low to guarantee the mills a profit.

The Congressional intent of the Section 101 provision was to subject the Tongass timber program to the same laws and market forces as all other national forests. It limits the amount of timber which can be supplied from the Tongass to the A) "extent consistent with" maintaining sustainable levels of recreation uses, fish and wildlife, watershed protection, and B) meets market demand for Tongass timber products.

3 | Two recent "independent" timber offerings on the Stikine Area (Frosty and Starfish) ended up with the operator either going broke or in the hands of a long-term contract holder. Factors such as these would seem to indicate a lack of market demand for timber from small businesses. Substantial questions such as these indicate a need for an in-depth discussion of timber market forces on the Tongass in order to comply with TTRA.

Concern 9: Potential of long term contract holders to bid on the sale:

4 | You did not address the SADF question regarding offering this sale to a large corporation. Obviously SADF is concerned that this "independent" sale will end up with APC as did, for example, the Starfish "Independent" Timber Sale. Please address the potential and implications of a large corporation winding up with this sale in your Draft document (ie. annual need for timber for APC under the provisions of TTRA, etc.). The public must have an opportunity to be fully informed of the potential for this sale to fall into the clutches of the 50-year contract holders or other large corporations.

5 | You also responded that "the amount of volume to be set aside depends on the current needs of small-business operators and this decision is usually done on an annual basis independently of the sale EIS after the Record of Decision" (emphasis added). However, the ROD always selects a preferred alternative which has a pre-identified volume of timber which was the basis for the environmental analysis. How can the current needs of small-business operators be a factor determining the volume to be set aside, since the volume to be harvested is set with the ROD?

6 | Concern 11: Wildlife Habitat: We have some serious doubts about FS protection of wildlife habitat in the study area. For example, "rentention areas" are often cut after only a few years with no suitable replacements. Estuaries are not defined as such because of careful wording aimed at increasing the ASQ to enable timber companies to cut more volume. Two years after the passage of TTRA there are reports of mandatory buffer strip violations. Wildlife travel corridors are being sliced up with roads and cutting units. Effective monitoring programs are virtually non-existent. We

have a Regional Forester, Governor, and DNR Commissioner who water down and muffle FS and State biologist's recommendations. It is high time that an effective policy be in place for maintaining wildlife habitat.

7 | We have reviewed the "Report of the Interagency Committee (April 1992)" for Maintaining Viable Wildlife Populations" and the technical review of that report conducted by Dr. Bruce Marcot who gave it a generally positive review. We request that the recommendations of the committee be implemented in all upcoming timber sales. To not do so would again infer a double standard by the FS with regards to timber and wildlife information. For example, timber type data inaccuracies (referred to below) have been ignored when your own agency analyst has pointed to major flaws. In addition timber prices and trends with little or no documentation or rational have been used by the FS to justify major actions.

8 | We must again remind you that the accuracy of the Stikine timber inventory is under serious question according to a report by FS analyst James Brickell (Review of Forest Inventory Methodology and Results, Tongass NF). The use of such faulty data has serious implications for wildlife, subsistence and recreation users, and other resources on the Tongass. Please seriously consider this report and take the necessary steps to correct faulty timber type analysis prior to issuance of a draft document. An in-depth discussion in your draft document on how these inaccuracies have been corrected would be appropriate.

We appreciate the opportunity to further comment during the scoping stage for this project. We look forward to additional comments as the analysis continues.

Sincerely,

Rebecca Knight
Rebecca Knight for

Narrows Conservation Coalition

cc. Society of American Forest Dwellers
SEACC
Kake Area Conservation Council

Narrows Conservation Coalition, Feb. 25, 1993 (#6)

Comment 6-1

...we would like to see a full discussion of the 1/4 versus 1/2 mile (buffer) issue... (for Wild and Scenic river corridors).

Response 6-1

The Wild and Scenic River Act specifies that boundaries shall include an average of not more than 320 acres per mile on both sides of the river. Larger boundaries were provided for specific Alaskan rivers included in this Act through an amendment by ANILCA. There is no language in the amended Act directing agencies managing lands in Alaska to provide additional protection under this Act to future rivers considered for inclusion into the Wild and Scenic River System. Congress provided the half mile protection to only 13 of the 26 rivers designated though ANILCA.

Comment 6-2

Although the Shamrock timber sale(s) is not intended to be purchased by a long-term contract holder, the intent of the Tongass Timber Reform Act is to extend the no high-grading provision to all timber sales. (paraphrased)

Response 6-2

The TTRA as passed by Congress specifies that the proportionality analysis applies only to long-term contracts.

Comment 6-3

Because other independent sales in the Stikine Area (Frosty and Starfish) either went broke or were eventually sold to long-term contract holders, it is evident that there is a lack of market demand for timber from small businesses. There is a need to evaluate timber market forces on the Tongass in order to comply with TTRA. (paraphrased)

Response 6-3

The Frosty and Starfish timber sales were never awarded to any independent operators. No one went broke logging those sales. Both ended up as long-term offerings because of government delays in making other volume available to KPC. If those sales had not been offered, then the government would have been in breach of contract.

Comment 6-4

What is the potential for and implications of a large corporation eventually purchasing this sale, particularly with respect to the annual need for timber for APC under the provisions of TTRA? (paraphrased)

Response 6-4

The Shamrock sale(s) is currently planned for the independent offerings. It is possible that a long-term contract holder could purchase the sale(s) under the independent sale program. Since this sale is outside of the long-term contract area, there are no "implications" with its offer.

Comment 6-5

How can the current needs of small-business operators be a factor determining the volume to be set aside (annually, independent of the EIS), since the volume to be harvested is set with the ROD?

Response 6-5

The amount of volume set-aside for small business operators is determined annually based on current and historic percentages of volume purchased by small and large purchasers. This set aside amount could include volume from the Shamrock ROD or could come from other timber sales. The ROD does not specify the volume from this project that will be set aside for small business.

Comment 6-6a	...retention areas are often cut after only a few years with no suitable replacements.
Response 6-6a	Areas to be managed as old-growth habitat throughout the life of the Shamrock project are described in the Wildlife section of Chapter 4 in the FEIS.
Comment 6-6b	Two years after passage of TTRA, there are reports of mandatory buffer strip violations.
Response 6-6b	Without more specific information, we cannot respond to this comment.
Comment 6-6c	Wildlife travel corridors are being sliced up with roads and cutting units.
Response 6-6c	The interdisciplinary team considered factors such as wildlife travel corridors, and attempts were made to minimize impacts to these corridors. However, it is not always possible to avoid such corridors.
Comment 6-6d	Effective monitoring programs (in the Tongass National Forest) are virtually non-existent.
Response 6-6d	The Forest Service has several ongoing monitoring programs and is developing new ones that follow the guidelines specified in the Revised Forest Plan. These include effectiveness monitoring for soils, water, and fisheries; wildlife monitoring programs; and implementation monitoring of timber sales. Monitoring plans for proposed sales are typically developed for critical issues identified for each proposed sale. While many potential issues were explored during the interdisciplinary planning process, the wildlife issues that continue to be important for the proposed Shamrock sale center on northern goshawk, for which monitoring has been proposed, and the loss of some "average" deer habitat (e.g., deer winter range) and its potential effects on deer populations, for which monitoring has now been proposed.
Comment 6-7	We request that the recommendations of the (Viable Population) committee be implemented in all upcoming timber sales.
Response 6-7	The recommendations of the Viable Population Committee are still in draft form and have not as yet been adopted by the Forest Service as official guidelines.
Comment 6-8	The accuracy of the Stikine timber inventory is in question, which could have serious implications for assessment of wildlife, subsistence, and recreation. (paraphrased)
Response 6-8	The Stikine timber inventory was used during the initial planning process to design potential harvest units for the Shamrock project. Although there were some inconsistencies observed for portions of some harvest units examined on the ground (documented in Seaberg, 1993), we believe the overall effect on a 100,000 acre project-wide analysis was negligible.



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Marine Fisheries Service
P.O. Box 21668
Juneau, Alaska 99802-1668

September 21, 1993

RECEIVED

Abigail R. Kimbell
Stikine Area Forest Supervisor
P.O. Box 309
Petersburg, Alaska 99833

OCT 11 1993
EA Engineering, Science, and Technology,
Redmond, WA

Dear Ms. Kimbell:

The National Marine Fisheries Service (NMFS) has reviewed the Draft Environmental Impact Statement (DEIS) for the proposed Shamrock Timber Harvest and offers the following comments.

1 The tideland location to which the timber will be hauled and put into marine waters for transport to a processing facility is presented in Chapter 1 as the existing log transfer facility at Little Hamilton Bay (Corps of Engineers' permit Keku Strait 26, file number 810493). That facility should be described in Chapter 3. The environmental impacts associated with using the Little Hamilton Bay log transfer facility should be stated in Chapter 4. Chapter 4 should state whether the Forest Service has estimates of the area of subtidal bark accumulation at the facility and compare that with the expected area of coverage if the Shamrock analysis area timber is also transferred there.

2 Page 4-72 under the heading "Proposed Log Storage Facilities and Camps". Traditional uses of the terms log transfer and log storage facilities imply facilities at or near tidewater. Since the timber cutting units are inland on Kupreanof Island in an analysis area distinct from the location of log transfer and storage, the intent of the four log storage facilities within the analysis area is unclear. Are these interim staging areas prior to trucking the logs down to Little Hamilton Bay? Is there a "camp" in the analysis area as implied by the heading? There should be a map reference to the log storage and camp facility locations in this section. We could not locate the figure where the sites referred to as C and D are depicted.

3 There is no reference in the DEIS to the fact that NMFS and the Forest Service completed informal consultation under Section 7 of the Endangered Species Act on the potential effects of the proposed timber sale on threatened and endangered species of our

¹ Faris, Tamra L., and Kenneth D. Vaughan. 1985. Log Transfer and Storage Facilities in Southeast Alaska: A Review. USDA Forest Service, Pacific Northwest Forest and Range Experiment Station, General Technical Report PNW-174. 24 pages and map supplement.

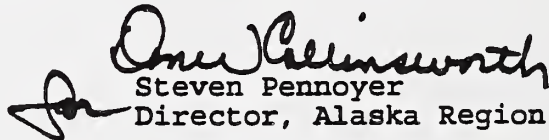


3 | responsibility. The listed species include humpback whales and
| Steller sea lions. The letters of reference are:

1. Letter dated March 4, 1993, from Steven Pennoyer to Abigail R. Kimbell, and
2. Biological Assessment drafted by Steven Blatt, John Edgington, Pam Gunther, Patricia Grantham, and Abigail Kimbell enclosed with the letter dated January 7, 1993, from Abigail R. Kimbell to Steve Pennoyer.

Thank you for the opportunity to comment. If you have any questions or desire further information please contact Tamra Faris in our Protected Resources Management Division at (907) 586-7235.

Sincerely,


Steven Pennoyer
Director, Alaska Region

cc: Ron Bockelman
EA Engineering, Science, & Technology
8520 154th Avenue N.E.
Redmond, WA 98052

National Oceanic and Atmospheric Administration (#7)

Comment 7-1

The log transfer facility at Little Hamilton Bay needs to be described in Chapter 3 and impacts associated with the facility (e.g., estimates of subtidal bark accumulation) should be stated in Chapter 4. (paraphrased)

Response 7-1

The Little Hamilton Bay log transfer facility was described in Chapter 3 of the DEIS as A-Frame or crane lift facility. Estimates of bark accumulation are given in the FEIS by alternative.

Comment 7-2

...the intent of the four log storage facilities within the analysis area is unclear. Are these interim staging areas...? Is there a "camp" in the analysis area...? There should be a map reference to the log storage and camp facilities...

Response 7-2

During the analysis four proposed log storage facilities or sorting yards were proposed, a thorough discussion of which has been added to the Transportation section of Chapter 4 in the FEIS. Two are located within the analysis area and two are located outside the analysis area. The proposed locations of these sorting yards are shown in the maps in Figure 4-1, which was added to the FEIS. No logging camp was proposed within the analysis area.

Comment 7-3

There is no reference in the DEIS to the fact that NMFS and the Forest Service completed informal consultation under Section 7 of the Endangered Species Act on the potential effects of the proposed timber sale on threatened or endangered species (humpback whales and Steller sea lions) of our responsibility.

Response 7-3

Reference citations have been provided in the FEIS.

COPY



United States Department of the Interior



RECEIVED

OFFICE OF THE SECRETARY
Office of Environmental Affairs
1689 C Street, Room 119
Anchorage, Alaska 99501-5126

OCT 20 1993

October 15, 1993

EA Engineering, Science, and Technology
Redmond, WA

ER93-682

Mr. Ron Bockelman
EA Engineering, Science & Technology
8520 154th Avenue N.E.
Redmond, WA 98052

Dear Mr. Bockelman:

In response to your letter dated July 28, 1993, we have reviewed the Draft Environmental Impact Statement (DEIS) for the Shamrock Timber Sale, Tongass National Forest. We offer the following comments for your consideration.

General Comments***Cumulative Effects***

1 We recommend the Final Environmental Impact Statement (EIS) include an area analysis of impacts, including all planned timber sales located on Kupreanof Island. A map of Kupreanof Island illustrating the location and year of all past, present, and future timber sales, including the Shamrock, Clover, Bohemia Mountain, and Douglas sales would be helpful in understanding the cumulative impacts continued logging will have on this island.

Fragmentation and Biodiversity

2 The DEIS states that 100 percent (26,000 acres) of the forest land suitable for timber production in the Shamrock area would be converted into even-aged stands over the next 30 to 50 years, and the proposed management direction suggests a 100-year rotation. It is our understanding that in this region old-growth forest takes 200 to 300 years to reestablish. We recommend the EIS take into consideration existing natural fragmentation of the island and explain how the permanent conversion of 26,000 acres of old-growth to second growth forest will affect wildlife populations in the area. We believe fish and wildlife habitats should be managed to maintain a viable population of existing native and desired non-native vertebrate species in the planning area.

4 Although the Shamrock area is naturally fragmented, it is centrally located on the island and is critical to maintaining interconnection of habitats on the island for old-growth dependent species. Alternatives 2, 4, and 5 would create further fragmentation as the main road cuts through the middle of the island with harvest units scattered along it. Contrary to statements made in the DEIS, we believe roads do create forest edge effects contributing to fragmentation of forest blocks. In this regard, the DEIS does not address the full impact roads and harvest units will have on interior old-growth forest habitat and

the full impact roads and harvest units will have on interior old-growth forest habitat and associated species (i.e., increased predation and competition, microclimatic changes, etc.). We believe the EIS should address placing a 300-foot forested buffer along all forest edges in the old-growth forest blocks identified in this area. The acreage of these buffers should be subtracted from the total acres given in the DEIS of old-growth forest blocks to account for the edge effect and give a more accurate estimate of remaining interior old-growth habitat on which certain species depend.

We recommend that a map depicting old-growth blocks and planned wildlife corridors be included in the EIS. We recommend harvest units be positioned along existing forest edges to minimize fragmentation and preserve the integrity of existing old-growth patches. In addition, we suggest a landscape-scale mitigative plan be considered in the EIS to maintain ecosystem biodiversity with placement of small Habitat Conservation Areas as recommended by the interagency Viable Population Committee.

The DEIS did not show designated retention areas as mandated by the current Tongass Land Management Plan (TLMP). We request that the Fish and Wildlife Service (FWS) be involved in designation of these retention areas in the Shamrock Sale Area.

Alternative Harvest Methods

The DEIS states that clear-cutting is being used for 94.6 percent of the Shamrock Timber Sale units in order to achieve vigorous, early successional timber stands and to reduce the existence of windthrow and dwarf mistletoe reinfection. These hazards to timber production occur naturally throughout the Tongass; they are not unique to harvest areas and we suggest that they not be used as justification to preclude alternative methods to clear-cutting. We recommend the EIS consider the use of alternative harvest methods in more units in the Shamrock Sale.

Sensitive Species

A reasonable assessment of project impacts on sensitive species (marbled murrelet, northern goshawk, spotted frog, and harlequin duck) is not possible given the information presented. As indicated in the U.S. Forest Service (USFS) Manual, we believe the EIS should: (1) identify and describe all occupied and unoccupied habitat recognized as essential for recovery, (2) give an analysis of the effects the proposed action could have on these species and their habitat, or (3) give recommendations for removing, avoiding, or compensating for any adverse effects.

Marbled Murrelet

The DEIS failed to address marbled murrelet surveys in the sale area and proposed mitigation actions to minimize nest disturbance.

We recommend the USFS develop a management plan for marbled murrelets that will assure maintenance of viable populations throughout the Tongass. The currently proposed 30-acre buffer stand for marbled murrelet nests is all edge and will not provide suitable marbled murrelet interior forest habitat (S. Kim Nelson, May 21, 1993, letter to Larry Edwards, Oregon State University, Corvallis, OR). We believe increased efforts are needed to locate murrelet nests and study murrelet nesting ecology and their use of forested areas throughout the year. We recommend two years of intensive inventory surveys in timber

harvest units following The Pacific Seabird Group survey protocol. Results should be included in the interagency database and EIS. Surveys are the only way to determine murrelet use of the sale area, and evaluate impacts of proposed actions on this species.

Northern Goshawks

14 The DEIS states that an active northern goshawk nest is located within the Shamrock sale area and that 25 acres of the foraging area is to be harvested as part of Unit 6. It further states the specific loss is insignificant if there are no additional losses outside the Shamrock sale area. We question this conclusion given the lack of specific information on this goshawk pair.

The aggregate effects of the North Irish and Shamrock Timber Sales on the goshawk nest should be considered in the EIS, since it is located within the boundaries of both timber sales. Harvest timber units within the Big John drainage could adversely impact habitat requirements of a nesting goshawk and potentially negate the efforts of Alaska Department of Fish and Game (ADF&G) to collect critical baseline data.

15 The Fish and Wildlife Service (FWS) recommends the USFS postpone constructing the southern end of Road 6314 and timber harvest within the goshawk nest foraging area, including unit 6 of the Shamrock and the North Irish timber sale units in the Big John drainage, until a two-year radio monitoring study is completed, or until sufficient data are available to develop a goshawk use area management plan for this nest. These data will lead to a greater understanding of the goshawk and improve the capability to maintain a viable and well distributed population of these birds in the Tongass. We request the USFS continue goshawk monitoring efforts during and after harvests.

16 The DEIS states that the USFS's August 18, 1992, interim guidelines for goshawk management will be implemented during the Shamrock Timber Sale project. We continue to advise that the interim guidelines are not adequate to protect these birds based on current goshawk information. We believe the inadequacy of the interim guidelines, the ineffective duration of goshawk surveys, and continued habitat alteration on Kupreanof Island will increase the probability of significant resource loss.

17 We recognize the understanding of minimum goshawk requirements in Southeast Alaska needs refinement. The FWS is willing to meet with USFS representatives to develop a mutually agreed upon individual goshawk use area management plan before implementation of this sale. We also recommend that the USFS evaluate and disclose the impacts of the North Irish and Shamrock Timber Sales as they relate to prohibitions against take under the Migratory Bird Treaty Act.

18 Finally, we recommend the EIS adopt large-scale habitat protection, such as described by the Interagency Viable Populations Committee's report, as an approach to mitigation. We believe that protection of individual nest sites alone is a short-term strategy that likely will not succeed in assuring long-term viability of goshawk and marbled murrelet populations in the Tongass National Forest.

Mineral Resources

The Bureau of Mine's (BOM) Minerals Availability Systems (MAS) and Mining Claim Information System (MCIS) databases indicate that the project area contains one prospect. The prospect was drilled by BOM in 1948.

Drilling consisted of four diamond drill holes, totaling 250 meters (770 feet) on the Taylor Creek lead zinc deposit. On the basis of this drilling, BOM-geologists identified a sub-economic resource totaling 1.0 million metric tons (1.2 million short tons) grading 0.40 percent lead, 1.00 percent zinc, and 17.1 g/mt (0.5 tr oz/st) silver with a Gross Metal Value of approximately \$21 million.

This deposit was aggregated with several others and entered into the TLMP Resource Inventory under the mineral activity tract name of Zarembo (Map No. 25, Table 3-44, p. 3-132, TLMP SDEIS August, 1991) and was ranked number one. A mineral activity tract ranked one would indicate this tract has at least one deposit with a positive, after-tax present net value at four percent discounted cash flow rate of return and/or would contain at least one active gold deposit. Most of the other deposits in the Zarembo tract fall outside the project area.

19 | It is BOM's opinion that all 52 mineral activity tracts identified during the Tongass Land Management Planning process are areas of high development potential and therefore we do not agree with your statements on p. 3-40, and 4-54 that there are no identified high value/high development potential mineral occurrences within the Shamrock area.

The MCIS database indicates that Quail Hill Mining Corp. based in Vancouver, Canada held several claims in the project area around 1989. Although the exact status of the claims or this company was not determined, it appears likely that these claims have lapsed. In short, there are no known claims presently active in the area.

Given the history of the area, the timber sale will have little or no effect on the mineral resources in the project area. The timber sale may benefit new mineral explorations since the proposed roads will improve accessibility and new road cuts might reveal mineralization that would not have been exposed otherwise. If further information on the mineral occurrences in the area are needed, please contact Mr. James Coldwell, Bureau of Mines, (907) 364-2111.

Specific Comments

20 | Page 3-12. The use of the terms "suitable" and "unsuitable" is misleading. The DEIS implies that there is no important deer habitat in the Shamrock sale area. FWS's 103 Ecological Services Manual, 1981 defines a Habitat Suitability Index (HSI) as a numerical index that represents the capacity of a given habitat to support a selected fish or wildlife species. An HSI must fall within the numerical range of 0.0 to 1.0. On this scale 0.0 represents no habitat suitability, and 1.0 represents optimum suitability. The DEIS interprets an HSI value range of 0.7 to 1.0 as just "suitable habitat," when in fact 1.0 is considered optimum. An HSI value of .25 may not be "unfavorable" to an animal, it is simply habitat that is rated as below average on the Habitat Evaluation Procedure scale. Unfavorable habitat may be the best there is on Kupreanof Island, and consequently

20
CONT.

important to the maintenance of local deer populations. If word rankings are used, the habitat could best be represented by the terms "excellent" with an HSI range 1.0 to .76; "good" with an HSI range of .75 to 0.51; "average" with an HSI range of .50 to .26; and "below average" with an HSI range of .25 to 0.

21

Page 4-16, paragraph 2. We believe that timber harvest activities should be considered irretrievable commitments of resources, given the USFS's intended rotation interval of 100 years. We suggest the USFS consider extending the rotation period to from 200 to 400 years in order to reestablish the old-growth nature of the habitat.

22

Page 4-17, paragraph 1. The DEIS implies project impacts on wildlife habitat are minimized by using the term "small and dispersed." Considering edge effects, the area of habitat alteration appears to us to be much larger than the DEIS reveals. (See Fragmentation and Biodiversity comments, above.)

Page 4-96, paragraph 1. See comment for 4-16, above.

23

Appendix A. We recommend that the Unit Cards show a 100-foot buffer along anadromous fish streams.

We request copies of any completed or continuing preliminary wildlife studies field data and reports in preparation of the Shamrock timber sale be sent to the FWS Juneau Field Office prior to the completion of the EIS. Copies may be sent to:

U.S. Fish and Wildlife Service
Southeast Alaska Ecological Services
3000 Vintage Boulevard, Suite 201
Juneau, Alaska 99801

We appreciate the opportunity to review this draft document.

Sincerely,



Regional Environmental Officer - Alaska

U.S. Department of Interior (#8)

- Comment 8-1** We recommend the FEIS include an area analysis of impacts, including all planned timber sales located on Kupreanof Island.
- Response 8-1** See response to comment 1-1.
-
- Comment 8-2** The DEIS states that 100 percent (26,000 acres) of the forest land suitable for timber production in the Shamrock area would be converted into even-aged stands over the next 30 to 50 years...
- Response 8-2** See Response to comment 1-5.
-
- Comment 8-3** We recommend the EIS take into consideration existing natural (forest) fragmentation on the island, and explain how the permanent conversion of 26,000 acres of old-growth to second-growth forest will affect wildlife populations in the area.
- Response 8-3** As you point out and which is also pointed out in the section on Biodiversity in Chapter 4, the mosaic of old-growth forest and non-forested muskeg in the Shamrock area represents a naturally fragmented forested habitat that may be closer to a threshold for decrease in diversity of old-growth dependent species due to further fragmentation. Our understanding of species diversity in Southeast Alaska is, however, not at a point where the relationship between species diversity and the proportion of forest/non-forest habitat is known. In any case, the degree of fragmentation resulting from harvest activities of the proposed Shamrock sale alternatives has been quantified in the biodiversity section of Chapter 4 and is shown to be relatively small. This level of fragmentation is not expected to significantly lower habitat capability for wildlife.
- The effects of converting 26,000 acres of old-growth to even-aged stands over a 150 year harvest schedule are addressed in the Revised Forest Plan.
-
- Comment 8-4** ...we believe roads do create edge effects contributing to fragmentation of forest blocks.
- Response 8-4** Cleared road corridors are expected to be approximately 66 feet for specified roads and somewhat narrower for temporary roads. While these corridors may affect the movement of some small animals, they do not result in the breaking up of major blocks of old-growth on a landscape scale, which is how fragmentation is typically described (e.g., Franklin and Forman, 1987; Harris 1984).
-
- Comment 8-5** A 300 foot forested buffer should be placed along edges of old-growth blocks to estimate interior old-growth habitat. (paraphrased)
- Response 8-5** Following your suggestion, an evaluation of interior old-growth habitat has been included in the Biodiversity section of the FEIS.
-

Comment 8-6	We recommend that a map depicting old growth blocks and planned wildlife corridors be included in the EIS.
Response 8-6	A map showing old-growth blocks greater than 1000 acres has been included in the FEIS (Fig. 3-3b). Wildlife corridors are discussed in the Wildlife Section of the FEIS and in unit summaries when they represent a resource conflict with timber harvesting (e.g., Units 6, 10, and 23).
Comment 8-7	We recommend harvest units be positioned along existing forest edges to minimize fragmentation...
Response 8-7	In laying out harvest units, locating units along the edges of old-growth blocks was an important consideration and was done so when reasonably possible.
Comment 8-8	We suggest a landscape level mitigation plan be considered in the EIS to maintain ecosystem biodiversity with placement of small Habitat Conservation Areas as recommended by the interagency Viable Population Committee.
Response 8-8	Since the recommendations of the Viable Population Committee are still in draft form, their implementation is at this time premature and are beyond the scope of a project-specific action like the Shamrock sale. However, in the FEIS we have designated areas to be managed as old-growth habitat for the life of the project that meet the specifications for small HCAs.
Comment 8-9	The DEIS did not show designated retention areas as mandated by the current TLMP.
Response 8-9	Areas to be managed as old-growth habitat throughout the life of the Shamrock project are described in the FEIS.
Comment 8-10	We recommend the EIS consider the use of alternative harvest methods in more units in the Shamrock sale.
Response 8-10	During the analysis process alternative harvest methods, such as single or group selection were considered (See DEIS and FEIS Chapter 2 Page 2-3). See also discussion of harvest methods in the Chapter 4 Vegetation section of both the DEIS and FEIS. Because of economics and risk of windthrow and mistletoe infection, alternative methods were dropped from final consideration, with the exception of Unit 40. Additionally, green tree retention was proposed for various units to meet specific visual and wildlife resource objectives.
Comment 8-11	A reasonable assessment of project impacts on sensitive species (marbled murrelet, northern goshawk, spotted frog, harlequin duck) is not possible given the information presented.
Response 8-11	The marbled murrelet is not thought by the Forest Service to be under undue environmental stress in Southeast Alaska. However, the Forest Service, in conjunction with other agencies, is currently exploring management options for species such as the marbled murrelet that are under perceived stress. As information is gathered that defines the amount of stress, management plans will

evolve. Current information does not suggest that immediate protective measures are needed. Northern goshawks were not observed in surveyed harvest units, and monitoring plans call for goshawk surveys to be conducted in each harvest unit prior to harvest.

The DEIS acknowledges both the uncertainty of impacts to the spotted frog and the paucity of even regional data for this frog. The harlequin duck should not be impacted by this project.

Comment 8-12

The DEIS failed to address marbled murrelet surveys in the sale area and proposed mitigation actions to minimize nest disturbances.

Response 8-12

The DEIS describes the marbled murrelet surveys that were conducted for the Shamrock EIS. No marbled murrelet nests were located.

Comment 8-13

We recommend the Forest Service develop a management plan for marbled murrelets that will assure maintenance of viable populations throughout the Tongass.

Response 8-13

The marbled murrelet is not thought by the Forest Service to be under undue environmental stress in Southeast Alaska. However, the Forest Service, in conjunction with other agencies, is currently exploring management options for species such as the marbled murrelet that are under perceived stress. As information is gathered that defines the amount of stress, management plans will evolve. Current information does not suggest that immediate protective measures are needed. See also response to Comment 8-12.

Comment 8-14

The DEIS concludes that the loss of 25 acres of foraging area from harvest of Unit 6 is insignificant because there are no additional losses outside the Shamrock sale area. Since there is a lack of specific information on this goshawk pair, this conclusion is questionable. The aggregate effects of the North Irish and Shamrock timber sales on the goshawk nest should be considered in the EIS. Harvest in the Big John drainage could impair studies by ADF&G to collect baseline data on this goshawk pair. (paraphrased)

Response 8-14

See response 3-6.

Comment 8-15

It is recommended that the Forest Service postpone constructing the southern end of Road 6314 and harvesting Unit 6 until after a 2 year monitoring study on the development of a management plan for this nest. The Forest Service should continue goshawk monitoring efforts during and after harvests. (paraphrased)

Response 8-15

See response 3-6.

Comment 8-16

The DEIS states that the Forest Service August 18, 1992 interim guidelines for goshawk management will be implemented during the Shamrock Timber Sale project. We continue to advise that the interim guidelines are not adequate to protect these birds based on current goshawk information.

Response 8-16

The interim guidance represents a current professional consensus; the guidance will evolve when substantive data supports a change.

Comment 8-17

The FWS is willing to meet with the USFS representatives to develop a mutually agreed upon individual goshawk use area management plan before implementation of this sale. We also recommend that the Forest Service evaluate and disclose impacts of the North Irish and Shamrock timber sale as they relate to prohibitions against take under the Migratory Bird Treaty Act.

Response 8-17

See response 3-6.

Comment 8-18

...we recommend the EIS adopt large-scale habitat protection...as an approach to mitigation. ...protection of individual nest sites is a short-term strategy that likely will not succeed in assuring long-term viability of goshawk and marbled murrelet populations in the Tongass National Forest.

Response 8-18

Areas to be managed as old-growth habitat throughout the life of the Shamrock project are being developed and will be described in the FEIS. See also 8-13 and 8-16.

Comment 8-19

...we do not agree with your statements on p. 3-40 and 4-54 that there are no identified high value/high development potential mineral occurrences within the Shamrock area.

Response 8-19

The Taylor Creek prospect identified by the BOM in their comments is located outside of the study area. Correspondence with the BOM originally indicated that their database contained one mineral occurrence within the study area (the BJB deposit). In a subsequent telephone conversation with BOM personnel, it was determined that the BJB deposit was not located within the study area. Therefore, we conclude that there are no identified high value/high development potential mineral occurrences within the Shamrock area.

In addition, the TLMP Revision (pages 3-132 through 134) ranks the 52 mineral activity tracts in the Tongass. We inferred from Figure 3-16 on page 134 that the Shamrock area does not encompass any portion of the Zarembo tract. As for undiscovered mineral resources, we refer to page 3-150 of the TLMP. This figure, derived from a USGS source, indicates that the Shamrock area has been classified as a Class 3 Tract with undiscovered mineral values of between \$400 and \$4,000 per square mile, which we believe does not constitute high value/high development potential areas.

The BOM's final comment on the effect of the timber sale on minerals is a concurrence with our conclusions in Chapter 4 of the DEIS (pages 4-54 and 55).

Comment 8-20

The use of the terms "suitable" and "unsuitable" is misleading. The DEIS implies there is no important deer habitat in the Shamrock sale area... If word rankings are used, the habitat could best be represented by the terms..."excellent,"..."good,"..."average," and..."below average."

Response 8-20

Changes to the terminology have been made.

Comment 8-21

The Forest Service should consider extending the rotation period from 100 years to 200-400 years. (paraphrased)

Response 8-21

The rotation periods used by the Forest Service are established during the Land Management Planning process. For areas under the Timber Management prescription TLMP schedules the rotation age at 95 percent Culmination of Mean Annual Increment. Highly productive sites are proposed for shorter rotation lengths and low productive sites have longer rotation ages. Averaged Forest-wide the rotation age is 100 years. Rotation lengths for areas under other land management prescriptions range between 140 and 170 years.

The rotation ages prescribed in each of the unit summaries are not binding but are the probable rotation lengths, based on current and proposed land management direction. Consideration of longer rotation ages are not precluded by implementing harvest of any of the units in the action alternatives.

Comment 8-22

The DEIS implies project impacts on wildlife habitat are minimized by using the term "small and dispersed." Considering edge effects, the area of habitat alteration appears to be much larger than the DEIS reveals.

Response 8-22

The text reads "...areal extent of ... habitat alteration is small and dispersed." Edge effects are analyzed in the Biodiversity Section of Chapter 4 in the FEIS.

Comment 8-23

We recommend that the unit cards should show 100 foot buffers along anadromous fish streams.

Response 8-23

Unit cards do indicate the location of 100 foot buffers along anadromous streams except where they are replaced with wider buffers for the wild and scenic river corridors.

OFFICE OF THE GOVERNOR
OFFICE OF MANAGEMENT AND BUDGET
DIVISION OF GOVERNMENTAL COORDINATION

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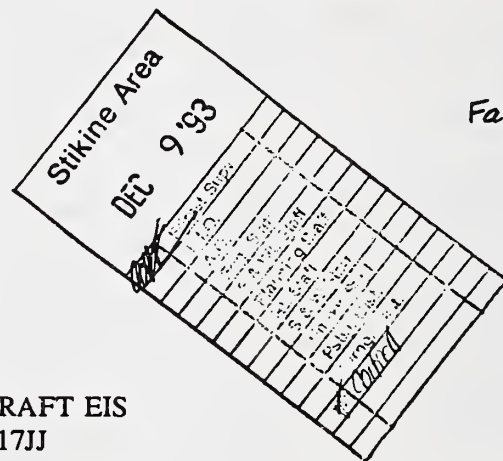
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PH: (907) 278-8594/FAX: (907) 272-0690

December 6, 1993

Ms. Abigail Kimbell
Forest Supervisor
Tongass National Forest, Stikine Area
U.S. Forest Service
p.o. Box 309
Petersburg, AK 99833

Dear Ms. Kimbell:

SUBJECT: SHAMROCK TIMBER SALE DRAFT EIS
STATE REVIEW NO. AK9308-17JJ



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The Division of Governmental Coordination has concluded coordination of the State of Alaska's review of the draft environmental impact statement for the Shamrock timber sale, according to the National Environmental Policy Act (NEPA). We appreciate the opportunity to participate at this stage of planning, and offer a consolidated response on behalf of the State resource agencies. As this review was conducted to satisfy the requirements of NEPA, the State comments include a broad range of issues.

Ultimately, per 15 CFR 930 Subpart C, the USFS's activity is required to be consistent to the maximum extent practicable with the standards of the Alaska Coastal Management Program (ACMP). At the time the USFS submits a federal consistency determination to the State, the State will conduct an ACMP review. Therefore, the State is taking advantage of this opportunity to comment on the EIS, as well as identify ACMP issues to the extent allowed by the specificity of the DEIS.

The State previously participated in a scoping review in 1992 under State review No. AK920528-23J.

PROJECT DESCRIPTION

The project proposed in the Shamrock DEIS is an offer of up to 40 million board feet of commercial timber from VCU's 429, 436, and 438 within the Shamrock area on the western, central portion of Kupreanof Island, including construction of an associated road system.

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The project area, which encompasses 108,000 acres, is 32 air miles southwest of Petersburg, between Duncan Canal and Rocky Pass. Under the current Forest Plan, the entire Shamrock area is LUD IV, managed to provide for intensive resource use and development where emphasis is primarily on commodity or market resources.* However, some of the area near Duncan Canal and other waterways have been changed to semi-primitive recreation by the Forest Plan Revision, 1991. Timber harvest in these areas is restricted to salvage operations. The timber would be sold in one or more timber sales beginning in 1994, and would be transported to salt water over the existing Little Hamilton Bay log transfer facility. The LTF was permitted in 1982 by the Corps of Engineers, and the Department of Natural Resources has issued a tidelands easement.

The EIS analyzes four action alternatives, and alternative 5 is preferred. This alternative maximizes timber volume and minimizes road construction to achieve the most economically viable alternative without placing roads or harvest units in the eligible wild and scenic river corridors. This would schedule harvest of 1,839 acres in 30 units for approximately 36.8 MMBF of net sawlog volume. This would harvest 1,699 acres of old growth (nearly all (98.7 percent) of the Shamrock CFL is in old growth stands. Most units will be clearcut (95 percent) except where partial cutting (as indicated in table 4-4) is feasible and would provide substantial benefit to other resources.

The DEIS contains unit and road descriptions for all action alternatives. The descriptions indicate specific resource concerns associated with each unit and mitigation measures. Information from field studies and GIS were used to address the issues and analyze the environmental effects of each alternative.

The following design elements are proposed for all alternatives. *Windthrow*: All units were designed to minimize windthrow, by locating boundaries around topographical features and vegetative conditions that provided protection from the wind, and using natural windfirm areas such as muskegs as boundaries when available. *Buffers*: The buffer zone of no less than 100 feet on certain streams is incorporated into all alternatives, as well as measures to protect other streams such as directional falling, partial suspension, split-yarding, and removal of logging debris from stream courses. *Rockpits*: The design of rockpits will incorporate features such as screening and rehabilitation where practical. *Roads*: Roads were located using BMPs that minimize soil and water resource impacts. Road locations avoid alluvial floodplains and landslide-prone areas to the greatest possible extent; avoid muskeg in noncommercial forest land; and full bench road construction and endhauling of excess excavated material would be required on designated areas for soil stability. Stream crossings were located perpendicular to the channel. *Camps*: Two sites identified as potential sites would require overlay of quarry rock, perimeter ditching and catchment basins, and where appropriate, protection measures for oil and other deleterious materials. *Sortyards*: Two potential sites would have the same requirements as the camps. *Green tree retention*: Portions of several harvest units will have live trees left uncut or partially harvested, leaving at densities varying between 5 and 15 trees per acre. *Snag retention*:

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Where safe and feasible, snags would be retained to provide habitat for birds and a future downed wood material source. *Enhancement opportunities:* The Sale Area Improvement (SAI) plan would consider projects for the Shamrock area. Mitigation measures applicable to all action alternatives are proposed are listed in enclosure A (pages 2-21 and -24).

NEPA COMMENTS

General NEPA comments

- 1 | DFG advises that one of the outstanding features of the document is the level of information
2 | provided on the road descriptions. This is the level of information DFG would also like to
3 | see in the unit descriptions. Also, DFG appreciates the greater depth of the subsistence
analysis, and addressing of issues such as biodiversity and fragmentation.

DFG concerns regarding this DEIS primarily center on wildlife and subsistence issues.

Retention (specific to Shamrock DEIS)

Concerning retention, the DEIS table 4-15 indicates that the retention goal for Shamrock is 1,489 acres, and the remaining suitable habitat for martin and bear is 7,849 and 22,889 respectively, and marginal habitat for deer is 5,610 acres. The DEIS states, in part: "To maintain a legislated amount of old growth habitat in original condition, the current Forest Plan prescribes the use of retention factors based on the land use designation for a particular VCU (Forest Service, 1984a). The Shamrock area is all LUD IV... However, some areas along Duncan Canal and around Irish Lakes have been proposed for semiprimitive recreation designation in the Forest Plan revision. Comparison between retention goals ... and the habitat remaining after implementation ... indicates that high-value MIS habitat is retained in excess of the required acreage for marten and bear. Residual high-value deer habitat in VCU 438 is less than the retention goal, but even the no action alternative has less high-value deer habitat than the desired retention goal...." (p. 4-26/27).

- 4 | DFG comments that the Shamrock DEIS failed to satisfactorily identify retention as is required under TLMP. Specifically, the retention information is unacceptable because the USFS has not depicted certain areas to be retained, but rather has labelled the acreage left over as retention. DFG believes this does not carry forth protection prescription for wildlife habitat. TLMP also discusses "extended rotations" as another way of postponing impacts to wildlife resources. DFG comments this is not a substitute for retention, but this aspect of TLMP does extend the period when habitat will continue to provide value to wildlife. DFG comments further on this issue under the "preliminary ACMP comments" section.

DFG recommends that a logical approach is for the USFS to form an interagency team of wildlife specialists from the Forest Service, USFWS and ADFG to determine the best retention scheme for wildlife before publication of the FEIS. This team should not be

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CONT. constrained by the location of units placed on a map in this document since the selection of units was incorrectly made prior to designation of retention. DFG also believes the retention scheme needs to be the same in each alternative; i.e., what is best for wildlife. The State requests that the Forest Service consult with DFG staff prior to final selection of units in the ROD and FEIS.

DFG states that the Forest Service also needs to consider that, since retention was not designated in the DEIS, the public will not have the opportunity to provide comments that will "realistically" enable the Forest Service to address their concerns regarding which areas are selected for retention in the FEIS. Completion of an amendment to the DEIS which remedies this deficiency may be the best way to fill this void.

Retention in general

5 DGC is concerned about the issue of retention being continually raised. Through the years of TLMP planning process and individual timber sale projects, DFG has expressed a high level of concern about retention. DFG comments that the State had originally found TLMP acceptable on the premise that retention would be designated, as well as provisions for extended rotations, in all timber sale planning efforts. Unilateral changes in this aspect of TLMP could be interpreted as justification for requiring a revised State position on the original Tongass Land Management Plan. In addition to DFG's involvement in the issue of retention through NEPA, there is a link to the Alaska Coastal Management Program (ACMP) as the State will, in the coming ACMP consistency review, have to determine whether sufficient allowance is being made for important fish and wildlife habitat, according to the Forest Practices Act. Thus, providing sufficient old growth for habitat is an issue which continues to be an important issue to DFG in the NEPA process, as well as in the subsequent ACMP review.

In the case of Shamrock, as in numerous previous timber sales, DFG is commenting that the USFS is not following TLMP direction for determining retention. The comments received over time contain two contentions: (1) in some cases, the USFS does not defer specific acres deemed to have habitat value, but instead merely labels acres left over as retention; and (2) the USFS is changing previously deferred acres through projects, but DFG contends that TLMP requires that retention can be revised only through Forest Plan revision. It is item 1 which is in question for the Shamrock project. The continuing dispute about the interpretation of TLMP concerning retention is troublesome to the State, and needs to be resolved soon. The Forest Service pointed out, in the 1984 Evaluation Report, that the "varying interpretations of what the retention factors are and how they should be regarded in the preparation of timber sales have made these factors a controversial subject." The State requests written explanation of how the USFS interprets TLMP in the present, and how it will be interpreted in the future when the revised TLMP goes into effect. Also, the State would like to know what has occurred between the documents, to show whether the 1984 direction was changed.

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To DGC's knowledge, the extent of written guidance on implementation of retention is the 1979 TLMP (pages 87 and 92), the November 1984 Forest Service Evaluation Report Admin. Doc. 139 (pages A-2 through A-14), and the TLMP amendment 1985-86 (pages 201-203 and Appendix D-1 through D-5). Retention is a complex issue which would appear to require very specific direction. Not having researched the issue fully and not having extensive familiarity with the timber sale process, I personally cannot ascertain precisely how retention is implemented today from the three documents. I saw some differences in the three documents, and did not see explanations of linkages between documents. Enclosure A contains small portions of direction from the three documents for readers' informational purposes to demonstrate perceived differences between the 1979, 1984, and 1985/86 direction.

6 For instance, it appears that in the 1979 TLMP, the "formula" was to retain 30 percent in LUD III and 13 percent in LUD IV; however, in the 1984 report, the formula appeared to have more variables (14 retention factors and 27 resource description codes) resulting in various percentages or extended rotation periods. Then, in the 1985/86 TLMP amendment, amounts and locations of operable CFL needed for retention were to be determined and mapped, and prescriptions written. When proposed prescriptions would preclude harvesting in order to maintain certain habitat conditions, the total acres excluded from harvest are considered retained. These all appear to have differences in their presentation. The 1985/86 direction requires that all areas considered for retention must be fully displayed in the NEPA planning documents for each project, and include locations of the wildlife habitat management unit, acreages contained within the prospective retention area by timber volume class, species to be featured, the specific retention prescription, and description of habitat values to be maintained, among other requirements. Were all of these requirements displayed in the Shamrock DEIS?

Alternatives

7 DFG comments that for an area that has had very little previous timber harvest, the Shamrock project area is scheduled to be highly fragmented, which will magnify effects on wildlife and subsistence values. The alternatives proposed are simply different combinations of the same pool of harvest units. Alternatives could be designed that: (1) harvest the peripheries of existing old growth blocks rather than the centers of blocks, (2) harvest from lower quality deer range on northerly aspects, and (3) better avoid wolf travel corridors and deer winter range in the Castle River drainage. The Department of Fish and Game has long opposed timber harvest in the lower Castle River drainage and believes harvest in the upper reaches of the drainage should be minimized.

10 DFG recommends the Forest Service conduct subsistence section 810 hearings on this DEIS. For reasons discussed in their subsistence comments, the finding of "No significant Restriction" may not be defensible. Completion of these hearings would enable the Forest Service to assure questions regarding subsistence are resolved.

- 11 DFG strongly recommends that alternative 3 be selected as the preferred alternative because it minimizes fragmentation of old growth blocks and harvest in the Castle River drainage; has the least encroachment on wolf travel corridors; builds the fewest miles of new road; and minimizes impacts to subsistence users. DFG is disturbed that an alternative was selected which does not include minimizing affects on subsistence and impacts to fish and wildlife in its objectives (page 2-18).
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Habitat quality terminology

- 13a The use of the Forest Service coined terms "suitable" and "marginal" throughout the DEIS in describing the two higher ranges of HSI scores for wildlife is very misleading. The implication is comparable to using a term roughly equivalent to mediocre for the best habitat and working down from there. This is not an acceptable approach. These are rankings of deer winter range only and do not take into consideration natural migration patterns of some populations of deer.

The DEIS states that because there is no habitat that scores in the high range on the habitat suitability index, the area contains "no suitable deer habitat." This suggests to the decision-maker and the public is that there is no deer habitat in the study area. In fact, as demonstrated on page 4-27. regarding VCU 438, it even misled the writers of the DEIS. Because two VCUs are rated as deep snow areas, it is not possible for them to score above 0.7 on the HSI. This does not mean there is no deer habitat in the area, particularly at the "micro-habitat" level and when taken in an ecosystem context which also considers deer migrations. As long as deer occur, the habitat has a level of suitability. For example, during the late 60's and early 70's the Indian Point area was described as a "warehouse" favored by Petersburg deer hunters. Most deer habitat in the Tongass falls in the 0.3 to 0.7 HSI range. Calling habitats "marginal" which produce up to 70 deer per square mile needs to be remedied in the FEIS.

- 13b Additionally, good habitat (as identified by modeling) should not be viewed as an absolute forestwide, but rather, a factor relative to each project area. The best deer habitat in the Shamrock area may not be as good in HSI terms as the best deer habitat on Admiralty Island. That does not mean that it is not as important to the local deer population. To the contrary, the best deer habitat in the Shamrock area, even if it scores as low as 0.6, is likely to be more important to deer on Kupreanof than some 1.0 areas are to deer on Admiralty because there is less of it. For this reason, any descriptive terms about the HSI value of habitat should be relative to the area under analysis.

- 13c DFG suggests the Forest Service utilize the language of the USFWS Habitat Evaluation Procedure (HEP) which is used by numerous resource agencies. HEP ranks habitat as excellent, good, average and below average. Use of this standardization would significantly improve the level of information provided to the decision-maker.

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By using the terms it does, the DEIS could mislead USFS decision makers into thinking deer are of negligible concern in the Shamrock project area.

Fragmentation, old-growth blocks, and biodiversity

14 The old growth block analysis in the DEIS is incomplete. Although DFG is pleased the ID team used the GIS to delineate old growth blocks, it is important that the blocks 1,000 acres or greater be depicted on a map. It is not apparent from Figure 3-3 where these blocks are or how the alternatives will affect them.

15 Table 4-19 on page 4-38 provides a start in depicting old-growth block size, but, it doesn't present the whole picture. Because the Shamrock area is already naturally fragmented, the old growth "blocks" delineated in the DEIS are not so much contiguous "blocks" as a series of lobes and fingers of forest connected by corridors of varying width and length. The proposed timber harvest units may not completely isolate the connections between the old-growth patches of a block, but they certainly increase the fragmentation within the block. In situations such as this, the degree of interior fragmentation cannot be represented simply by citing the number of acres within blocks of various sizes. DFG believes including an edge-to-area-ratio of each 1,000 acre block for each alternative would increase the sensitivity of this index of fragmentation.

An alternative to edge-to-area ratio would be to measure the size of the blocks within a 300-foot perimeter inside the edge of the old-growth blocks. This would enable the Forest Service to ascertain the size of blocks of forest which actually contain "old-growth conditions". For example, a series of 599 foot wide "lobes" of old-growth covering the project area would sound like a large block using the method of analysis used in this DEIS, yet it may not contain a single acre of actual interior old-growth conditions.

16 The narrative on cumulative effects in the biodiversity section (pp.4-39 to 4-41) is a good discussion of the likely effects on Kupreanof's biodiversity from the logging program. DFG agrees with the comment that given its already high natural fragmentation, the area may be close to the threshold of a sharp decrease in species diversity.

17 The lack of a landscape scale mitigation plan for biodiversity on Kupreanof Island mentioned on page 4-43, is a major failing in the planning for this timber sale. Four timber sales totalling about 140 mmbf (Shamrock, Douglas, Bohemia Mountain and North Irish) are being planned simultaneously in an area of high naturally fragmented forests. There has been no attempt in any of the sales DFG has seen to look at the area as a whole and analyze what would be necessary to maintain species diversity. Logically this would have been done through completion of an Area Analysis as required under TLMP. Although the interagency viable populations committee work is referenced, it has not been used and no other plan to insure species viability has been substituted.

18 DFG takes issue with the approach on page 4-43 that analysis of the effects of habitat
fragmentation on wildlife should be put off until 25 percent of old growth is cut on
Kupreanof Island. This level of information is needed during ongoing planning (including
the required designation of retention) and needs to include productive old growth on private
land, some of which was harvested by the Forest Service prior to conveyance to private
entities. It would be instructive for the FEIS to include the percent of CFL on Kupreanof
19 Island, as a whole, that has been converted to second growth. DFG also disagrees that road
corridors do not increase fragmentation for some species, particularly some non-game species
of wildlife -- and fish (if fish passage is not provided).

Deer habitat capability model

20 It appears the predicted post-timber harvest habitat capability of deer in Tables 4-10A and 4-
10B is too high. Table 4-10B shows a habitat capability decrease of only 3 deer in WAA
5133 after 836 acres of timber harvest under alternative 5. This means average habitat
capability for the acres harvested is only 2 deer per square mile. Considering the aspect,
elevation, and forest types of the cutting units in this WAA, it seems unlikely those areas
would have so low an average deer density even considering predators and deep snow
conditions. Similarly, the decrease in habitat capability of 22 deer for the 1,000 acres to be
harvested in WAA 5130 under alternative 5 (14 deer/mi²) also seems low. DFG suspects the
habitat capability models were somehow misapplied to the habitat database, or perhaps this
demonstrates the fallacy of restricting the effects analysis to the first 25 years after harvest.
DFG requests the Forest Service reevaluate these figures, and if incorrect, remedy this in the
FEIS. DFG would like to be notified of changes prior to publication in the FEIS.

21 A major source of potential error in using the models is the lack of standardization of
databases in running habitat capability models. In this EIS as well as others, the Stikine
Area has used the TIMCLU inventory database. However, **the models were developed to
run using the TIMTYP volume class polygons.** Using the TIMCLU soil type polygons
misuses the models and results in an unverifiable analysis. Other Areas and the TLMP
Revision Team use the TIMTYP inventory, as was the intended use of the models. Even
within this DEIS, different methods (point grid and polygon) were used to arrive at habitat
capability for different species (pg. 3-12).

Without some agreement on databases and running of the models, predicted effects on
wildlife are not comparable from one sale to the next or one entry to the next and the
accuracy of model outputs becomes questionable. DFG appreciates that the Stikine area has
found TIMCLU to be a more accurate database. However, if its use is the new standard, the
Forest Service must make it a priority to develop an accurate, standardized timber inventory
and standardize the application of the habitat capability models. This should be utilized in
the FEIS.

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Cumulative effects analysis

22 The DEIS does not include an acceptable cumulative effects analysis. Although proposed
 23a future timber sales on Kupreanof Island were listed, there was no attempt to depict effects on
 23b wildlife of these sales. This is particularly disconcerting given that the Forest Service
 proposes to harvest 100 percent of the suitable forest land in the sale area in the next 30 to
 50 years (page 4-14). It should be noted that this is in just half the expected Forest rotation.
 TLMP Revision projections of habitat capability decreases should have been displayed both
 for the study area and neighboring portions of Kupreanof Island beyond the current sale to
 the end of the rotation. This would be a benefit of the required Area Analysis.

24 Even the complete effects of the current sale were not displayed; the EIS limited the analysis
 to the first 25 years after harvest. Thus, only the immediate habitat capability decreases for
 deer and bear are shown in the DEIS. But black bear habitat capability decreases
 substantially when clearcuts succeed to second-growth stands and bear forage in cutover
 areas is no longer being produced. Deer habitat capability decreases in second-growth stands
 to virtually nothing after the second-growth canopy closes over. By failing to show habitat
 capability for these species two to three decades after harvest, the DEIS understates the
 effects of logging the Shamrock area.

Patch size factors of habitat capability models

25 Patch size factors were always intended to be important aspects of the habitat capability
 models for some old-growth sensitive species. ADF&G believes use of patch size factors
 provides more accurate values for species' habitat capabilities, particularly where the
 landscape is as fragmented as it is on Kupreanof Island. They were not used in the TLMP
 Revision because of the difficulty of doing fragmentation and patch size analysis forestwide.
 In a project level analysis, however, DFG believes they should be incorporated, particularly
 if the "hard part" of the analysis, delineating sizes of old growth blocks, has already been
 completed as it has in the Shamrock DEIS.

DFG recommends the patch size effectiveness graph from the deer habitat capability model
 be used. One way to make practical use of this graph is to assign a single value to a patch
 size range rather than keep the value a linear function of patch size. For example, using
 median values for the ranges results in the following table:

Species	<u>Patch size ranges (acres)</u>			
	0-100	101-500	501-1,000	> 1,000
Deer	.325	.5	.83	1.0

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CONT.

One then would multiply the habitat capability of a polygon by the value of the patch size it is in to get the patch size habitat capability. It should be a relatively easy task to get patch size habitat capability if one already has a GIS layer of old growth blocks.

Wolves and predation

During the winters of 1977-78 and 1978-79 LaVern Beier of ADF&G flew many aerial surveys over Kupreanof Island following wolf tracks in the snow. The surveys were done in preparation for the transplant of deer to the Portage Bay area of Kupreanof in 1979. On Kupreanof, the heads of bays have historically been hot spots for wolf trapping. One reason for this appears to be that wolf migration corridors noted by Beier in those surveys terminate at the heads of bays. Beier observed that tracks indicated wolves traveled across Kupreanof through corridors made by creek valleys and the passes between them. Among the major wolf travel corridors he noted were: (1) Hamilton Creek-Towers Lake-Towers Arm north of the Shamrock study area; (2) Big John Creek (south branch)-Unnamed Creek 1-Duncan Canal; (3) Keku Creek-Castle River-Duncan Canal; and (4) Tunehean Creek tributaries - south-flowing unnamed streams - Totem Bay.

Beier noted that wolves used similar natural corridors when travelling on the Lindenberg Peninsula. In 1984, after logging began on the south Lindenberg Peninsula, he again conducted winter aerial surveys of wolf tracks and noticed that wolf travel corridors had changed and followed logging roads across the Lindenberg (Beier, pers comm.). This phenomenon of wolves following roads has also been reported on Kuiu Island. The planned roads of the Shamrock sale intersect the west Kupreanof wolf travel corridors in the drainages of Unnamed Creek 1, Castle River, and the upper tributaries of Tunehean and Keku Creeks. It seems likely that these roads will change wolf travel routes as they did on the Lindenberg.

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The roads will lead wolves to the clearcuts and the leave strips between them. In winter, deer could be more vulnerable to wolf predation because of the "cafeteria effect" in which wolves key on deer concentrated in forested winter habitat between clearcuts. The areas of good winter habitat between the south- and west-facing units (54, 25, 20, 82, and 15) in the Castle River drainage would likely be particularly susceptible to this effect. Because quality winter deer habitat seems to be at a premium in the Shamrock area, fragmenting what does exist along well-traveled wolf corridors might subject deer to adverse effects far exceeding those predicted in the DEIS. Road access to these areas would also likely increase hunting and trapping pressure on wolves. A discussion of these aspects of predation and effects on wolves should appear in the FEIS.

Moose

- 27 | Moose are now numerous enough on Kupreanof to be hunted. A spike-fork/50" hunting season opened on Oct. 1, 1993. Effects of the timber sale on moose and hunters should be discussed in the FEIS.

Proportionality

- 28 | DFG recommends that a proportionality analysis be done for this sale because independent timber sales in the Stikine Area are sometimes purchased by long-term contract holders. Given the small number of independent operators in the Tongass who could handle a sale of this volume this could occur again. The high volume timber proportionality analysis on pages 4-36 and 4-37 is misleading. It uses all old-growth forest volume class 4 or greater as its timber base, whereas only suitable forestland (less TTRA buffers, oversteepened slopes, etc.) should be included. The DEIS also uses the proportion of harvest of high volume timber as its measure rather than the proportion existing both before and after harvest...including historic harvests in the area. It also does the analysis for the Shamrock area as a distinct unit rather than for management areas as required by TTRA. DFG is also concerned that the database used for determining proportionality may not be sufficiently accurate to ensure against overharvest of volume classes 6 and 7.

- 30 | As stated in other timber sale reviews, DGC points out that, as in the December 6, 1991 State position on the supplemental DEIS for the TLMP revision, the State recognizes that the proportionality provision may be subject to different interpretations and may be challenging to implement. At that time, the State requested that the TLMP FEIS fully disclose an explanation of the USFS interpretation and proposed implementation of this provision. The USFS has stated that the TIMTYP is the existing data system which has been used in the forest plan for the entire Tongass Forest, that use of the TIMTYP in the present is the only way to achieve consistency forestwide, and to change the entire data system to accommodate on-the-ground survey information (which is available for only parts of the forest) forestwide is infeasible at this time. The State accepts the TIMTYPE data, but with objection for the record. The accuracy of this approach is clearly a question of considerable concern to the State, as the TIMTYP database contains significant variation in volume estimation and classification on a project-level basis since it is based on photo inventory. Ground survey data is substantially more accurate. Again, in the December 6, 1991 State position, the State said, "In order to develop a high degree of reliability in the forest planning process, the State strongly recommends that the Forest Service continue to refine the technical databases and models upon which forest and project planning are based, including the timber type and vegetation maps.... Additional research and monitoring funds should be prioritized to improve the models having the most influence on forest project planning decisions." DGC believes the matter concerning the type of database to determine proportionality should be pursued outside the parameters of a particular project. The offering area monitoring plan should include methods to critically test the reliability of the TIMTYP database to actual unit

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CONT.

harvest volume. Such monitoring efforts could contribute to resolving specific concerns regarding the basis for achieving proportionality objectives. The State encourages the USFS to develop a new forestry inventory which will more accurately reflect actual volumes. We recommend a meeting with the USFS and State to discuss this issue. This meeting could provide an opportunity for the USFS to explain its interpretation of TTRA and to inform the State of intentions for future inventory methods.

Mitigation

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Slash retention and green tree/snag retention (pg.4-42) are not mitigation for most wildlife. In fact, slash retention is detrimental to deer. The target species expected to benefit should be specified and the effect on deer should be included in the FEIS. Additionally, OSHA regulations disallow snag retention in many instances.

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Descriptions of mitigation or non-mitigation which appear on the unit descriptions are of concern to DFG. The retention of 5 green snags per acre in approximately 1/3 of unit 7 is not mitigation for impacts to deer habitat as the unit description for this unit indicates. Equally disconcerting from a biological perspective is the statement on a number of units that the cutting of "marginal" deer winter range *"is not mitigated since adequate habitat exists elsewhere."* This is indicated for units 10, 14, 23, 24, 28, 37, 43, 48, 51, 52, 54, 55 and 81. While DFG does not believe there is potential for significant mitigation for loss of deer habitat (other than location of selected units to reduce the amount of highest quality habitat lost) this statement demonstrates a lack of understanding of wildlife population dynamics. This section of the unit summaries needs to be rewritten along with inclusion of meaningful wildlife observations on the "descriptions".

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DFG is pleased to see that precommercial thinning was not proposed as mitigation for wildlife. Thus far, research has not shown measurable improvement for wildlife from thinning.

Monitoring

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The only specific monitoring for wildlife is for goshawks. The only other monitoring for wildlife is the effectiveness of group selection and no indication is provided regarding what species will be monitored, how long the monitoring will continue and if the results will be made available to interested agencies. A more detailed monitoring plan needs to be included in the FEIS with commitments made to assure the objectives are accomplished. Additionally, this list of species to be monitored should include all MIS (see below) listed in the EIS. Too often DFG has heard that monitoring was not completed because it was not funded. Somehow this gap between intent and action needs to be closed.

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Management indicator species (MIS)

35 Species selected to be MIS need to include all species of concern in the project area, including fish and wildlife. Several obvious missing species include Vancouver Canada geese, a snag dependent species, marbled murrelets, wolves, coho salmon and cutthroat trout, at a minimum. One species which could possibly be dropped due to the sale location is river otter.

Maps

36 Contrary to DFG's request in their response to the Shamrock Timber Sale Scoping document as well as in other recent independent timber sale documents they have reviewed, the DEIS does not include maps that depict the overall topography of the study area in any of the alternative maps or on figure 3-3. Contour lines in at least 500 foot intervals should be shown on these maps. While this information is included on the unit summaries, it is important for analysis of effects on wildlife to see the overall slope, aspect and stream valleys displayed. Fig. 3-3 should also include stream courses. In the absence of streams and topography, the map has limited usefulness.

Miscellaneous

37 On page 4-83, harvest unit 61 is included in alternative 5 yet the simulated view of this alternative in figure 4-1 does not include it. On pg 4-85, harvest unit 37 does not appear in figure 4-2 C.

38 On page, 4-33 in the discussion of stream buffers and blowdown, it is stated that "large scale blowdown is reduced or eliminated by avoiding harvest near fish-bearing waters." However, harvest will occur as near as 100 feet from fish-bearing streams and it should be noted that 100-foot buffers are not guaranteed against blowdown.

PRELIMINARY ACMP COMMENTS

As indicated earlier, upon implementation of the Record of Decision (ROD) and the State's receipt of the federal consistency determination per 15 CFR 930.34, the timber harvest activity will be reviewed for consistency with the standards of the Alaska Coastal Management Program (ACMP), according to the time allotted in federal coastal zone management regulations 15 CFR 930.35 (45 days). The ACMP review standards are, by incorporation, those of the Alaska Forest Resources and Practices Act, Alaska Statute (AS) 41 amended 1990 and regulations 11 AAC 95 as revised effective June 10, 1993. An exception is when, in accordance with AS 41.17.900(b)(2)(B), if timber harvesting or an associated activity requires State or federal authorizations, the ACMP standards in 6 AAC 80 will apply to those aspects of the project which require authorizations.

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DFG has provided the following preliminary ACMP comments:

When DFG reviews the FEIS, they will focus on the consistency of the entire sale as well as individual roads and units with the 1990 Forest Resources and Practices Act. Specifically, the following standards form the primary focus of DFG's review:

(b)(5) "significant adverse effects of soil erosion and mass wasting on water quality and fish habitat shall be prevented or minimized";

(c)(1) "forest land shall be administered for the multiple use of the renewable and nonrenewable resources and for the sustained yield of the renewable resources of the land in the manner that best provides for the present needs and preserves the future options of the people of the state";

(c)(5) "there may not be significant impairment of the productivity of the land and water with respect to renewable resources"; and

(c)(7) "allowance shall be made for important fish and wildlife habitat."

Wildlife

39 A major focus of DFG's ACMP review will be identification and designation of areas for managing wildlife. DFG understands that the designation of retention is prescribed in the Tongass Land Management Plan as a requirement for managing wildlife and fish habitats on the Forest. This is also an issue under the ACMP (the link between retention (TLMP) to ACMP is the State's above described standards which must be met). Retention is also discussed earlier in the NEPA comments.

DFG is concerned that in this DEIS the Forest Service avoids the issue leaving the designation of retention for the "future". Statements such as "...high-value MIS habitat is retained in excess of the required acreage for marten and bear" and "residual high-value deer habitat in VCU 438 is less than the retention goal" demonstrate a lack of understanding of the concept of retention ... as well as substantiates DFG's concerns (see NEPA comments) about the use of the terms "suitable" and "marginal" habitat. Calling areas which are not selected as logging units as the equivalent of retention (regardless of its value to wildlife) and incorrectly stating that there is no "suitable" habitat for deer does not meet the requirements of ACMP to assure that allowance is indeed being made for important wildlife habitat (nor does it meet the retention requirements of TLMP). This is particularly disconcerting given the document indicates 100 percent of the suitable forest land in the sale area will be turned into second growth in the next 30 to 50 years.

In their NEPA comments, DFG explained that the State position found the original TLMP acceptable, as it provided for designation of retention and extended rotations. DFG also comments that the concept of retention is linked to the ACMP standards for protection of

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CONT

wildlife. Thus, DFG requests an interagency team of wildlife specialists determine retained areas, and DFG desires to participate in this process in order to assure this sale is consistent with the ACMP.

Units and roads

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Unit 6 and associated portion of 6314 road. This unit appears to include a portion of the foraging area for an active Northern Goshawk nest. Construction of the road and harvest of the unit pose an as yet undetermined level of threat to this nest. DFG recognizes part of the unit was dropped to avoid this area, but identification of the foraging area at this date is based on conjecture. Rather than rely on unsubstantiated interim guidelines for the protection of this nest, DFG recommends unit 6, along with the associated section of road, be deleted from the sale. If the unit is sold now it may preclude utilization of final guidelines for the protection of this species which should be available in the near future. A more acceptable approach would be to defer this unit for another sale when the Forest Service will have more complete information on this species and this nesting pair of goshawks. This may be an ACMP issue in the FEIS.

41

Unit and road descriptions. The DEIS contains a substitute form for unit cards which fail to provide the level of detail DFG needs to make unit specific ACMP consistency determinations for a timber sale. The descriptions do not provide information to indicate that wildlife specialists even visited the units, much less what they found. Field observations confirm or disprove the results of modeling and are necessary for DFG to validate Forest Service findings for each unit. DFG requests that specific wildlife information at least equivalent to the excellent level of detail provided for the **road descriptions** be included in the unit descriptions.

42

Although the road descriptions did not provide site specific habitat information for the crossings of anadromous fish streams (which is still needed), they provide a much higher level of information regarding the roads. With the addition of site specific habitat values, this information will enable DFG to complete their ACMP determination for this portion of the sale.

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The Forest Service is to be commended for this portion of the DEIS.

Fish

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Cross and down stream yarding. To comply with ACMP standard 41.17.060 (b) (5), the Forest Service needs to avoid situations where logs must be yarded without full suspension across class 3 tributaries to anadromous fish habitat. Units need to be designed to enable directional falling and yarding away from these surface waters. Even with these techniques sensitive areas may need to be logged with timing restrictions. Several units which appear to be potentially inconsistent with this standard include, at a minimum, units 3, 6, 13, 45, 81, and possibly small blind leads or areas requiring yarding adjacent and parallel to V-notches or streams in units 25, 40, 51, and 51M. This concern also applies to other units where this situation exists.

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CONT.

DFG is concerned about this issue because the practice continues to this day and DFG continues to see evidence of large areas of disturbed soils adjacent to surface waters and instream yarding with deposits of silt evident in the streams below the logging areas. DFG found this situation as recently as October 2, 1993 in the Cabin Timber Sale on Mitkof Island where the Forest Service made no apparent attempt to split on class 3 tributaries to anadromous fish habitat or minimize soil disturbance during a particularly sensitive time of year. DFG does not believe this practice is consistent with the ACMP.

Protection of fish habitat. In reviewing the information provided on the road descriptions DFG finds several kinds of concerns for which they need assurance adequate fish habitat protection will be incorporated into this sale. These include:

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1. Protection of spawning habitat in class I streams. If spawning habitat is present, structures at the following crossings may need to be redesigned to maintain anadromous fish spawning habitat:

- 6314 road station 603+21
- 6314 road station 772+27
- 45808 road station 48+40
- 45808 road station 52+70

46

2. Maintenance of fish passage for class I and II streams where the natural stream gradient is too steep to enable a culvert bedded at the natural gradient to pass fish. There are a large number of culverts in this category. Each one of these crossings will need some kind of mitigation to assure juvenile fish passage is guaranteed as required under AS 16.05.840.

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3. Location of rock pits sufficient distance from fish streams to assure fish are not killed or injured by overpressures from blasting; and sufficient distance from tributaries to fish streams to assure drainage from pits does not flow into fish habitat. Examples of identified pit locations where these problems could occur (the pits would be less than .1 mile from the crossings) include, at a minimum:

- 6314 road R8: station 450+95
- 6314 road R11: station 756+50
- 6314 road R15: station 948+10
- 45800 road R32: 1.30 mile
- 45801 road R27: 0.61 mile
- 45803 road R18: 2.41 mile
- 45803 road R19: 2.63 mile
- 45803 road R20: 3.00 mile
- 45804 road R24: 1.22 mile
- 45804 road R25: 3.31 mile

47
CONT.

- 45804 road R26: 4.02 mile
- 45808 road R2: 0.91 mile
- 45808 road R1: 1.90 mile
- 45906 road 0.18 mile
- 45915 road 1.87 mile

It appears that some of these pit sites are too close to streams to enable the Forest Service to meet ACMP standard AS 41.17.060(b)(5). Others may be developable with sufficient mitigation.

48

4. Several critical areas are identified for the proposed roads that may present too much risk to downstream aquatic resources. These include:

- 45803 road: 2.32 mile to 2.40 mile
- 45804 road: 1.92 mile to 2.02 mile
- 40804 road: 2.33 mile to 2.41 mile

DFG will need additional assurance that these segments can be safely constructed before finding this element of the sale consistent with the ACMP. Significant problems at these sites may be additional reasons for modifying the preferred alternative.

49

5. On page 2-20 the DEIS states that there are 393 acres to be harvested with high potential for mass movement. These are potentially inconsistent portions of units. Standard mitigation techniques are prescribed, but DFG would like to see additional site specific information in the FEIS to assure DFG that timber harvesting will not trigger mass wasting.

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6. On page 2-17 the DEIS indicates that fish passage will be monitored for effectiveness. However, nowhere does DFG see an indication that culverts which do not provide fish passage will be replaced. Failure to provide fish passage without authorization from the Department of Fish and Game constitutes a violation of AS 16.05.840. The Forest Service needs to comply with State law and this intention should be noted in the FEIS.

51

This concern is reinforced by recent trends in road maintenance in the Stikine area. Each year the Forest Service adds a significant number of miles to the road system in the area, yet each year less money is being allocated to maintaining these roads. For example, a landslide which blocked the Three Lakes Road on Mitkof Island has not been removed all spring, summer and thus far this fall. Now it is scheduled for October when downstream fishery resources in Falls Creek will be most at risk. Each road the Forest Service builds on the Tongass adds to the risks to fish and wildlife resources. And the less these roads are maintained, the greater the risk. If the USFS is going to continue to add to the road system, they must also make an equivalent commitment to maintaining

those roads. Thus, increasing amounts of money must be utilized for this purpose, not less.

- 52 | 7. On page 4-32 DFG noted that harvest of Class III stream banks could increase water temperatures in the Castle River drainage. Yet page 4-33 states that mitigative measures for temperature impacts are not proposed because "harvest of Class III streams is not expected to adversely impact water temperatures". These statements appear contradictory and need to be clarified since affects on temperature are an ACMP issue.

SUBSISTENCE

- 53 | Staff from the DFG subsistence division corresponded with the contractor on this sale and DFG is pleased to note that a good deal of Division of Subsistence data and source material has been incorporated into the analysis. However, DFG does not agree with the 810 findings which suggest that there will be no significant restrictions on subsistence either from the project or from forest-wide activities. The Shamrock sale schedules significant timber harvesting in VCU's where shortages of deer and significant restrictions on deer hunting have existed for many years. (prohibitions from 1975-1992)

54

According to NEPA and ANILCA, a DEIS needs to: (1) review existing data; (2) describe subsistence uses in the project area; (3) estimate the project and cumulative impact on subsistence uses, and (4) make ANILCA, sec. 810 determinations as to whether the proposed actions will significantly restrict subsistence. If it is determined that the proposed actions will significantly restrict subsistence, the Federal agency is required to notify the communities and appropriate agencies, hold hearings in the affected communities, and determine that (a) the restriction on subsistence is necessary and consistent with sound management principles for the utilization of the public lands; (b) the proposed activity will involve the minimal amount of land necessary to accomplish the purposes; and (c) reasonable steps will be taken to minimize adverse impacts upon subsistence uses and resources resulting from such action.

It is DFG's view that the Forest Service has not satisfactorily carried out these necessary tasks. DFG's concerns can be summarized as follows:

- 55 | Selection of Kupreanof Island as a project area; selection of alternative 5 as preferred. The document does not indicate that selection and scheduling of this project was influenced by subsistence considerations. Kupreanof Island has been an important subsistence harvest area for deer and other species for hundreds, perhaps thousands of years. A combination of factors contributed to a decline in the deer population in the early 1970s, resulting in the closure of the island to hunting in 1975. Since 1975, the populations of Kake, Petersburg and other Southeast communities have grown as has the demand for deer forest-wide. If logging activities on Kupreanof and Kuiu Islands are carried out, the full recovery of the deer population will be delayed if not imperiled. This is, in part, because many deer are migratory, using both upland and coastal habitat during different periods of the year. The Forest Service needs to include

minimization of effects on subsistence as a planning goal. Had this been done, Shamrock might not be scheduled for logging as long as other areas are available for logging where subsistence impacts might be less.

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CONT.

Similarly, selection of the preferred alternative does not appear to have been influenced by subsistence considerations. Alternative 1 (No Action) and Alternative 3 both provide for significantly less reduction in valuable deer habitat, and fewer miles of road construction, thus minimizing increased access to and competition in important traditional subsistence hunting areas.

In addition to these general concerns, DFG has the following comments on the DEIS concerning subsistence.

56

Affected environment. This section includes a good deal of information from a draft report by the Division of Subsistence, entitled "Subsistence Resource Use Patterns in Southeast Alaska: Summaries of 15 Communities" (Betts, Victor, Schroeder, and Thornton 1992). DFG is pleased to see DFG materials utilized, but suggest that information taken from these summaries be cited.

Some of the statements in this section should be corrected, as follows.

57

On page 3-44 the reference to Figure B-1 under the section Historical Tlingit Clan Hunting Boundaries should read Figure C-1.

58

In the section titled Community-Specific Subsistence Use, under Point Baker, Port Protection, and Wrangell, pounds of resources harvested should be more clearly represented as averages. "Per capita" should be inserted as follows: *Per capita* subsistence harvests consisted of 93 lbs of deer, 31 lbs of other mammals..."

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Also in this section under Kake, DFG notes that the phrase "seasonal economy" is used and should be changed to "seasonal employment." Also, the phrase "economic sectors" is used; it refers to *employment* sectors, and should be changed accordingly. The concept of a mixed cash-subsistence economy should be introduced so that subsistence harvests are not characterized as a supplement to the economy, but shown as an integral part of the economy that continues year round. The following two paragraphs should be incorporated under the general Subsistence heading beginning on page 3-43:

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"Subsistence use of fish and wildlife continues to be an important component of the economies of Southeast Alaska communities. In Native communities, harvest and use of wild resources supported the subsistence-based economy that predated the introduction of cash income. In the modern era, the economies of Native communities have undergone a progressive transformation, incorporating cash income into the subsistence-based system. Southeast Alaska communities settled primarily by non-Native immigrants have also depended on a mix of subsistence use of wild resources

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cont.

and cash income. Cash income in most Southeast rural communities is limited and intermittent; this cash income frequently supports the purchase of fuel and equipment that are part of subsistence harvest technology. Subsistence harvests have been found to fill essential food needs in most rural communities in the region. These harvests are also customarily shared among community residents and between members of different communities. Some subsistence products are traded and bartered within the region. Subsistence harvests are not geared toward market sale or accumulated profit. A mixed subsistence-market economy in which subsistence harvests and cash income are complementary characterizes the economies of most of the region's rural communities."

61

In addition to characterizing the affected environment, the DEIS needs to analyze this information on community harvest patterns in a way that is meaningful in the context of this project. A key question here is "To what extent was Kupreanof Island and the Shamrock Project Area in particular hunted by the affected communities prior to the deer hunting closure in 1975?" Figures for pre 1975 demand can be calculated on the basis of historic harvest data or historic use patterns which are detailed in Division of Subsistence Technical reports (e.g., Smythe 1988; Firman and Bosworth 1990). After calculating pre-1975 demand, projections for 1993-2040 demand can be made by correlating community and regional populations increases to historic and/or present harvest levels. Such a procedure was followed in the N.E. Kuiu FEIS (where the same deer data constraints existed), S.E. Chichagof, Central Prince of Wales, and other EISs.

62

Environmental consequences. The subsistence section here is weak and needs to be rewritten and expanded. The section on deer is particularly confusing. Because DFG is dealing with historic, present, and future levels of harvest under a range of action alternatives, the DEIS needs to present the analysis in tabular and graphic form. Using the methodology described above, community deer demand in each Wildlife Analysis Area (WAA) should be juxtaposed to the sustainable harvestable supply (10% of the habitat capability) for each decade from 1990 to 2040. Supply and demand graphs should also be presented showing the cumulative effects that forest-wide activities will have on communities' ability to meet present and future demand for deer. DFG also suggests incorporating mapped data showing cumulative effects on supply versus demand like the ones which were incorporated in the S.E. Chichagof and CPOW FEISs.

63

Avoidance of high use subsistence areas. On page 4-67, the document states that "beach fringe is one of the highest use subsistence areas and will not be affected under any of the proposed alternatives." It is erroneous to equate general avoidance of logging on certain environment (beach fringe, estuary fringe, and riparian areas), some of which are protected anyway by law, with protection of the "highest value subsistence use areas." While it is true that subsistence harvesting takes place in coastal beach fringe, riparian, and marine environments, sufficient adjacent habitat for wildlife populations used for subsistence must be maintained to avoid significant restrictions to subsistence harvesting. Thus, clear cutting large tracts of uplands above a high use beach fringe hunting area does not constitute "protection" of that environment for subsistence use, especially considering migratory patterns of some wildlife.

Abigail Kimbell (Shamrock DEIS)

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December 6, 1993

Section 810 determinations. The 810 determinations need to be clearly represented by community, WAA, project-specific, and cumulative effects. DFG recommends including a set of four summary tables which display both site-specific and cumulative effects by community and WAA. These tables should be organized as follows: *

64

- a. Significant possibility of a significant restriction of subsistence use of Sitka Black-Tailed Deer from Project Activities for Project Area by Community and Alternative.
- b. Significant possibility of a significant restriction of subsistence use of Sitka Black-Tailed Deer from Project Activities (preferred alternative) by WAA and by Community.
- c. Significant possibility of a significant restriction of subsistence use of Sitka Black-Tailed Deer from Project (preferred alternative) and Other Forest Management for Project Area by Community.
- d. Significant possibility of a significant restriction of subsistence use of Sitka Black-Tailed Deer from Project (preferred alternative) and Other Forest Management by WAA and by Community.

Hearings

65

No mention is made of 810 hearings on this DEIS. Because the finding of "No significant Restriction" is debatable and may be subject to change (as was the case in the N.E. Kuiu EIS), DFG encourages the Planning Team to conduct subsistence hearings in the affected communities. Hearings will provide opportunities for subsistence users to provide input on alternatives, monitoring, and, mitigation, as well as to evaluate the analysis of impacts on subsistence.

Mitigation and monitoring of impacts on subsistence

66

DFG found little evidence of mitigation measures for subsistence in the DEIS. On page 4-68, mention is made of efforts to maintain fish and wildlife productivity, but these efforts are not specific to subsistence. In the section in Chapter 2 on monitoring, DFG suggests including a section on subsistence with the "Objective" being to more precisely assess and mitigate impacts of timber harvest on subsistence harvests; the "Desired Result" being no adverse impacts on subsistence harvesters; the "Measurement" to include analysis of USFS and logging camp personnel's use of the area, levels of harvest by community, etc.; "Evaluation" being to compare historic (pre-1975) and post 1993 harvest, access, and competition patterns; and the "Responsible Staff" being the USFS Regional Subsistence Coordinator. Without such monitoring, DFG does not see how impacts to subsistence can be evaluated once the timber harvesting begins.

Thank you for the opportunity to comment. Agencies' individual comments were previously sent to you.

LETTER #9, P.22

Abigail Kimbell (Shamrock DEIS)

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December 6, 1993

Sincerely,



Lorraine Marshall

Project Review Coordinator

cc: Jim Ferguson, DEC
Lana Shea, DFG, Juneau
➤ Don Cornelius, DFG, Petersburg
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Abigail Kimbell (Shamrock DEIS)

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December 6, 1993

Enclosure A

RETENTION

The 1979 TLMP document mentions retention factors, and discusses a formula:

"Whether logging is allowed under a LUD III or LUD IV designation is an important consideration. Using current retention factors, LUD III generally allows an average of 30 percent of the operable old growth to be retained.... LUD IV allows an average retention of 13 percent. Thus, LUD III offers much more latitude to protect important wildlife habitat than LUD IV." (p. 87)

The 1984 Evaluation Report explains:

The TLMP retention factors are a method to provide personnel with management latitude to protect certain wildlife resources. Provision of such management latitude was perceived as necessary to facilitate compliance with the SE Alaska Area Guide. This latitude was created in two ways: (1) lowering timber yield expectations by retaining operable CFL acres from the land base that is to become available for timber management purposes; and (2) lowering the rate of harvest through increasing the length of rotation periods. There are 14 factors, and each factor is associated with one or more of 27 resource description codes. Also, mapped information depicting wildlife use areas was generated on a Tongass-wide basis. If a particular photo interpretation point representing 80 acres of operable CFL with a single resource description code of 43 (bear/cat. 3) were to be allocated to LUD III, then 20 percent would be retained since this is the retention factor associated with code 45 under LUD III. Thus, the total acres retained are dependent on how mapped information associated with the 27 resource descriptions codes is juxtaposed on an area of operable timber, and which of the retention factors are applicable. The report stated that actual operable acres retained in LUDs III and IV in the TLMP can be located and roughly mapped to establish where operable CFL has been retained, and that use of this information should serve as a starting point in the analyses leading to preparation of a timber sale. (p. A-2/3.)

Concerning redistribution of retention areas, the report contained the following key statements: A January 29, 1981 letter addresses the permanency of the retention factors, stating that they could be subject to change as a result of periodic amendments and revisions to the Plan. Until such changes are made, the acres retained as a result of applying the factors can be considered as permanently retained in the same sense that all the LUD III and IV CFL acres not retained can be considered permanently available. Latitude to add, subtract, or substitute other acres to meet field-based management needs is provided for, however. Also, it states that retained acres can be incrementally adjusted, but redistribution of these acres on a large scale in advance of detailed timber sale planning should not be considered (p. A-6). The deferred acres can continue to serve the habitat needs of wildlife, for example, until (and if) they are harvested in the future (p. A-7).

The 1985/86 TLMP Amendment states:

Amounts and locations of operable CFL needed for wildlife and fisheries protection are determined. The information is compiled, paying particular attention to the identification of key habitats to be considered for management. All habitats are organized into units which have the potential to provide high quality habitat, as defined in the Area Guide. Units are evaluated and mapped and proposed prescriptions, including specific prescriptions for those key habitats to be considered for application of the retention provision, are written and included in the formulation of each of the alternatives. Habitat units are mapped and displayed in the environmental analysis. The potential effects of the proposed habitat management prescriptions will be estimated, and the acres of operable CFL needed to effect the proposed retention prescriptions are computed and compared with the acreages provided by the retention factor method. Where proposed prescriptions would preclude timber harvesting in order to maintain certain habitat conditions, the total acres excluded from harvest are considered retained. (Pages 201-203.)

Areas of old growth forest in LUDs III and IV that meet the definitions of key habitat shall be identified for consideration as retention acres during area analysis. (Appendix D.)

In project planning, the interdisciplinary team shall utilize the area analysis findings to incorporate retention provisions into their formulations of management alternatives. Specific configurations under consideration for retention and prescriptions shall be built into each alternative evaluated. All areas considered for retention must be fully displayed in the NEPA planning documents for each project. At a minimum, information presented for each area to be considered for retention prescriptions must include: (1) location of the WHMU; (2) acreages contained within the prospective retention area by timber volume class; (3) species to be featured; (4) specific retention prescription; and (5) description of habitat values to be maintained under the prescribed retention treatment. Each area of operable CFL under retention that is displayed shall be managed for the remainder of the planning period.

Enclosure B

CLEAN WATER ACT SECTION 319 COMMENTS

The Department of Environmental Conservation (DEC) reviews federal activities for consistency with nonpoint source standards per section 319 of the Clean Water Act (CWA), as well as the Alaska Coastal Management Program (ACMP). The following comments are separate from the ACMP, and are offered to assist the USFS in developing a project that will be consistent with Section 319 of the CWA.

Sections 319(b)(2)(f) and 319(k) of the Clean Water Act 1990 Amendments enable states to review federal activities and development projects for consistency with standards in the state's federally approved nonpoint Source Management Plan (Strategy) (the Strategy was approved by the U.S. Environmental Protection Agency). The standard of review for consistency with Section 319 is the Alaska Nonpoint Source Pollution Control Strategy dated August 1990. DEC also notes the applicability of the DEC/USFS Memorandum of Agreement on water quality management in Region 10 (the MOA provides guidance on how the USFS and DEC will implement the various tasks that are set out in the strategy). Under the Clean Water Act, the federal agency proposing an activity is required to accommodate the concerns of the state. This authority is also provided for in section 313 of the CWA. The State's NPS Strategy represents a cooperative approach, and the Strategy measures are not in State regulation at this time and are not enforceable under State law.

Monitoring

- 67 A. Implementation monitoring. DEC would like to point out that the section on implementation monitoring is discussing primarily the normal USFS procedure for project implementation and contract enforcement. DEC does not consider these activities to be monitoring. An activity is not monitoring unless the results are summarized and reported. As such, the only implementation monitoring of which DEC is aware is the annual BMP implementation monitoring effort, the results of which are reported to DEC. However, DEC encourages the USFS to widen the scope of implementation monitoring: such information is useful for internal management and quality control and, when reported to the State and the public, provides others an opportunity to review the progress of the project, the quality of the work, and compliance with standards and guidelines.
- 68 B. Effectiveness monitoring. DEC understands that the effectiveness monitoring plan for the project is still under development. DEC forest practices staff recently met with staff from the Petersburg Ranger District and the Stikine Area to discuss an effectiveness monitoring strategy for the Petersburg District that would, among other things, include the Shamrock timber sale. This strategy, if applied to all future timber sales, would

Abigail Kimbell (Shamrock DEIS)

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December 6, 1993

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CONT.

assure compliance with the Alaska Nonpoint Source Pollution Control Strategy Task 2.4. DEC will be working with the USFS over the next few months to finalize this strategy. The approved strategy will identify the effectiveness monitoring topics that apply to the Shamrock and other timber sales. If there are any water quality related issues that are specific to the Shamrock sale, then DEC encourages the USFS to design a monitoring project to address these issues.

Unit cards

- 69 Overall, the unit cards appeared to be adequate. The prescriptions were site-specific, and seemed to be relevant to the situation on the ground. However, DEC would like to raise one concern with the management prescriptions made for class III streams. The contract prescriptions for class III streams are for "B" or "C" level protection. While some of the unit narratives were clear as to which type of protection was being prescribed, others were not.
- 70 Also, for some streams, no protection measures were prescribed, implying that the streams require no protection. For example, type "B" protection is apparently prescribed for streams in units 438-2, 4, 10, 11, and 13, 429-5, 28, 51 and 51M, and 436-24, 25, 55, and 81. Type "C" protection is apparently prescribed for streams in units 429-6 and 45, and 436-29. Units having unclear or nonexistent prescriptions include 438-22, 436-32, 33, 36, and 82, and 429-45.
- 71 Per BMP 12.6a and 13.2, DEC suggests examining the risk of windthrow for buffers associated with units 436-43 and 429-48.

Alaska Division of Governmental Coordination (#9)

- Comment 9-1** ...one of the outstanding features of the document is the level of information provided on the road descriptions.
- Response 9-1** Thank you
-
- Comment 9-2** DFG would like to see the same level of information in the unit cards as in the road cards. (paraphrased)
- Response 9-2** The unit summaries in Appendix A of the DEIS provide the basic information and concerns provided by resource specialists during the analysis of the Shamrock project. In the preparation of the FEIS several unit summaries have been revised to reflect information or concerns that were raised during the analysis.
-
- Comment 9-3** DFG appreciates the greater depth of the subsistence analysis and the addressing of issues such as biodiversity and fragmentation.
- Response 9-3** Thank-you.
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- Comment 9-4** ...the Shamrock DEIS failed to satisfactorily designate retention as is required under TLMP.
- Response 9-4** Areas to be managed as old-growth habitat throughout the life of the Shamrock project are now described in the FEIS.
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- Comment 9-5** The State requests written explanation of how the USFS interprets TLMP in the present and how it will be interpreted in the future when the revised TLMP goes into effect. Also, the state would like to know what has occurred between the documents, to show whether the 1984 direction was changed.
- Response 9-5** This request is oriented towards policy, and is outside the scope of the Shamrock EIS. The Forest Service Regional Forester and State Commissioners have agreed to convene a workshop in the near future to explain and demonstrate comparability of areas previously and currently designated as retention acreage (Letter of Agreement, December 1993).
-
- Comment 9-6** Were all these requirements (of the 1985/1986 TLMP direction on retention) displayed in the Shamrock DEIS?
- Response 9-6** The State and the Forest Service have not reached total consensus on retention. Directional intent is being met concerning retention. Areas to be managed as old-growth habitat throughout the life of the Shamrock project are described in the FEIS.
-

Comment 9-7	Fragmentation due to proposed harvesting will magnify effects on wildlife and subsistence. (paraphrased)
Response 9-7	We do not agree that the level of fragmentation due to the harvesting proposed in the Shamrock timber sale(s) will significantly affect wildlife or subsistence.
Comment 9-8	Alternatives could be designed that 1) harvest peripheries of existing old growth blocks rather than from the center of blocks, 2) harvest from lower quality deer range on northerly aspects, and 3) better avoid wolf travel corridors and deer winter range in the Castle River drainage.
Response 9-8	The design of alternatives incorporated the above features that could be reasonably implemented. Attempts were made to locate proposed harvest units on northern aspects, but the bulk of available timberland within the project is located on south aspects. Units were located on both on the edges of blocks and in the center of blocks. To obtain a reasonable range of alternative volumes, harvest units were located in the interior of old-growth block. Alternative 3 specifically avoids significant harvesting in the Castle River drainage.
Comment 9-9	The Department of Fish and Game has long opposed timber harvest in the lower Castle River drainage and believes harvest in the upper reaches of the drainage should be minimized.
Response 9-9	None of the action alternatives considered in this DEIS include harvest in the lower Castle River drainage. See also responses to comments 2-2 and 3-1.
Comment 9-10	DFG recommends the Forest Service conduct subsistence Section 810 hearings on this DEIS.
Response 9-10	We agree. Subsistence hearings were held on October 12th and 13th, in Petersburg and Kake, respectively. Additional hearings were conducted subsequent to the issuance of the Shamrock FEIS, due to the changed subsistence findings.
Comment 9-11	Alternative 3 should be selected as the preferred alternative because it minimizes fragmentation, encroaches least on wolf travel corridors, builds fewest miles of new roads, and minimizes subsistence impacts. (paraphrased)
Response 9-11	Alternative 3 was designed to concentrate harvest in the north half of the project area, leaving large blocks of old growth and watershed unharvested in the southern half. Alternative 5 was selected because of reasons stated in the Summary, p. iv.
Comment 9-12	DFG is disturbed that an alternative was selected which does not include minimizing effects on subsistence and impacts to fish and wildlife in its objectives.
Response 9-12	See 9-11.

Comment 9-13a	The use of the Forest Service coined terms "suitable" and "marginal" throughout the DEIS in describing the two higher ranges of HSI scores for wildlife is very misleading.
Response 9-13a	Changes to the terminology have been made.
Comment 9-13b	...good habitat (as identified by modeling) should not be viewed as absolute forestwide, but rather a factor relative to each project area.
Response 9-13b	Such an approach was described with respect to deer winter range.
Comment 9-13c	DFG suggests the Forest Service utilize the language of the USFWS Habitat Evaluation Procedure (HEP) which is used by numerous resource agencies.
Response 9-13c	The terminology used for the HSI categories has been changed in the FEIS to be consistent with the HEP terminology.
Comment 9-14	...it is important that the (old-growth) blocks 1000 acres or greater be depicted on a map.
Response 9-14	Figure 3-3h in the FEIS depicts the location of old-growth blocks greater than 1000 acres.
Comment 9-15	...the degree of interior fragmentation cannot be represented simply by citing the number of acres within (old-growth) blocks of various sizes. DFG believes including an edge-to-area ratio of each 1000 acre block would increase the sensitivity of this index of fragmentation.
Response 9-15	Although edge to area ratios of old-growth blocks greater than 1000 acres would be an indicator of reductions in interior old-growth, it is not clear what a given change in ratio would actually mean. A more meaningful measure is a direct comparison of interior old-growth habitat between unharvested and harvested conditions, which has been included in the Biodiversity section of the FEIS.
Comment 9-16	The narrative on cumulative effects in biodiversity section...is a good discussion of the likely effects...from the logging program.
Response 9-16	Thank you.
Comment 9-17	The lack of a landscape scale mitigation plan for biodiversity for Kupreanof Island...is a major failing in the planning for this timber sale... Logically this would have been done through completion of an Area Analysis as required under TLMP.
Response 9-17	We agree that a landscape level mitigation plan for biodiversity would logically be a part of an area analysis for Kupreanof Island, but is beyond the scope of the Shamrock EIS. Also see response to comment 1-1.

Comment 9-18

DFB takes issue with the approach on page 4-43 that the analysis of the effects of fragmentation on wildlife should not be put off until 25 percent of old-growth in cut on Kupreanof Island.

Response 9-18

Currently, there is no island-wide wildlife monitoring plan for Kupreanof Island nor is one specified under the Forest Plan Revision. The Forest Plan Revision specifies a monitoring program to validate the use of MIS models, which are used to assess effects of harvesting; however this monitoring plan is conducted on the regional level of the Tongass National Forest. Assessing the effects of fragmentation on Kupreanof Island would utilize MIS models that are validated through this monitoring program.

The text on p. 4-43 of the DEIS was not intended to mean that examining the effects of fragmentation should be put off until 25 percent of the old-growth on Kupreanof Island is cut, and it has been reworded to indicate that a continuous monitoring program is recommended to evaluate effects of fragmentation, among other effects of timber harvest activities. The development of a monitoring plan that assesses island-wide wildlife populations is, however, not within the scope of this project-specific EIS.

Comment 9-19

DFG disagrees that road corridors do not increase fragmentation for some species...

Response 9-19

Cleared road corridors are expected to be approximately 66 feet for specified roads and somewhat narrower for temporary roads. While these corridors may affect the movement of some small animals, they do not result in the breaking up of major blocks of old-growth on a landscape scale, which is how forest fragmentation is typically described (e.g., Franklin and Forman, 1987; Harris 1984).

Comment 9-20

It appears that the predicted post-timber harvest habitat capability of deer in Tables 4-10A and 4-10B is too high, since harvest of 836 acres in WAA 5133 results in a decrease of only 3 deer. The HCMs may have been misapplied to the database, or the results demonstrate the fallacy of restricting the analysis to 25 years post-harvest. The HCM figures should be reevaluated. (paraphrased)

Response 9-20

The HCM analysis has been re-evaluated and found to be reasonable. See response to DEIS Supplement question S10-5 in Appendix G.

Comment 9-21

The models were developed to use TIMTYP volume class polygons and using the TIMCLU soil type polygons misuses the models and results in an unverifiable analysis. The Forest Service should use standardized databases in applying HCMs, since this may be a major source of potential error in the using the models. (paraphrased)

Response 9-21

Model coding had been updated by Forest Service biologists to run using TIMCLU soil-type polygons, prior to use for the Shamrock analysis. At the time of the analysis, this version of the model was available and was used and was felt by Stikine area biologists to be the most appropriate to use on Shamrock.

Comment 9-22

The DEIS does not include an acceptable cumulative effects analysis.

Response 9-22

Given the information available, we have included a reasonably thorough cumulative effects analysis for the Shamrock timber sale(s).

Comment 9-23a	The Forest Service proposes to harvest 100 percent of the suitable forest land in the sale area in the next 30-50 years. This is just half the expected forest rotation. (paraphrased)
Response 9-23a	See response to comment 1-5.
Comment 9-23b	TLMP Revision projections of habitat capability decreases should have been displayed both for the study area and neighboring portions of Kupreanof Island beyond the current sale to the end of the rotation. This would be a benefit of the required area analysis.
Response 9-23b	Such an analysis would be appropriate in an area analysis for Kupreanof Island. Also see response to comment 1-1.
Comment 9-24	The HCM analysis is limited to the first 25 years after harvest, but the habitat capability of deer and bear decreases substantially after 25 years when the canopy closes over. As a result, the DEIS understates the effects of logging the Shamrock area on these two species. (paraphrased)
Response 9-24	Project-lifetime analyses have been added into the FEIS.
Comment 9-25	Patch size factors were always intended to be important aspects of HCMs for some old-growth sensitive species...DFG believes they should be incorporated into the Shamrock analysis.
Response 9-25	TLMP habitat modeling procedures do not currently incorporate patch-size factors; the use of factors patch-size in HCMs is currently unverifiable and would not be comparable with other habitat modeling efforts.
Comment 9-26	The DEIS does not fully address the effects of harvest activities on wolf predation of deer. Clearcuts and roads can lead to a "cafeteria" effect by facilitating wolf movement to higher concentrations of deer utilizing unharvested areas. Road access could also increase hunting and trapping pressure on wolves. (paraphrased)
Response 9-26	The interdisciplinary team considered factors such as wildlife travel corridors, and attempts were made to minimize impacts to these corridors. However, it is not always possible to avoid such corridors and alterations in wolf movement are probable. The extent of that alteration and the resultant effects to deer are speculative at present.
Comment 9-27	Moose are now numerous enough on Kupreanof Island to be hunted... Effects of the timber sale on moose and hunters should be discussed in the FEIS.
Response 9-27	Moose are not an MIS for the Tongass National Forest, and were not identified during the interdisciplinary planning process as being of critical concern. However, moose are now included in the revised Subsistence analysis, insofar as available information allowed. Refer to the revised Subsistence section in Chapter 4 of the Shamrock FEIS.

Comment 9-28

DFG recommends that proportionality analysis be done for this sale because independent timber sales in the Stikine Area are sometimes purchased by long-term contract holders.

Response 9-28

The TTRA requirement for a proportionality test is only applicable on long-term sale offerings. If the Shamrock sale(s) were to be offered to a long-term contract holder, a proportionality analysis would be required and performed by the Forest Service prior to any offering to a long-term contract holder.

Comment 9-29

The high volume timber proportionality analysis on pages 4-36 and 4-37 is misleading.

Response 9-29

The analysis of old-growth harvest by volume class on pp. 4-36 and 4-37 of the DEIS was not intended to be a formal proportionality analysis, as defined by TTRA. Since several commentors found this to be misleading, it has been deleted in the FEIS.

Comment 9-30

The offering area monitoring plan should include methods to critically test the reliability of the TIMTYP database to actual unit harvest volume... The state encourages the USFS to develop a new forestry inventory which will more accurately reflect the actual volume. We recommend a meeting with the USFS and State to discuss this issue.

Response 9-30

See response to comment 6-8.

A monitoring plan to verify the reliability of the TIMTYP database to actual harvest volume is beyond the scope of the analysis of this project. The proposed project volumes in this analysis were based on volume studies specific to Kupreanof Island. Average volumes from these studies were applied to the volume class typing of the project area and appear to be reasonable and appropriate for the Shamrock area.

Comment 9-31

Slash retention and green tree/snag retention (p. 4-42) are not mitigation for most wildlife. In fact, slash retention is detrimental to deer. The target species expected to benefit should be specified and the effect on deer should be included in FEIS... Retention of 5 green snags per acre in approximately 1/3 of Unit 7 is not mitigation for impacts to deer habitat.

Response 9-31

As written in the "Slash Retention" subsection of the Wildlife Mitigative Measures section: "...slash provides cover habitat for wildlife species such as amphibians, songbirds that utilize the understory, and small mammals." These measures have been proposed in the recognition that multiple species are potentially affected by timber harvest, and deer are not the sole object for mitigative measures.

Comment 9-32

We do not believe that loss of highest quality deer habitat can be mitigated and it is inaccurate to state in the unit summaries that the cutting of "marginal" deer winter range "is not mitigated since adequate habitat exists elsewhere" (Units 10, 14, 23, 24, 28, 37, 43, 48, 51, 52, 54, 55, and 81). This statement demonstrates a lack of understanding of wildlife population dynamics. (paraphrased)

Response 9-32

Only 5.6 percent of the higher-value deer winter range for the Shamrock area as a whole (9.5 percent or less for the individual VCUs) is proposed for harvest (under the maximum-harvest alternative, Alternative 2). The preferred alternative

(Alternative 5) proposes to harvest only 4.8 percent of the high-value deer winter range in the Shamrock area (6.0 percent or less for the individual VCUs). As noted, this loss is not mitigated, and the inaccuracies have been omitted from the text.

Comment 9-33

DFG is pleased to see that precommercial thinning was not proposed as mitigation for wildlife.

Response 9-33

Comment noted.

Comment 9-34

A more detailed monitoring plan needs to be included in the FEIS with commitments made to assure the objectives are accomplished.

Response 9-34

Monitoring plans for proposed sales are typically developed for critical issues identified for each proposed sale. While many potential issues were explored during the interdisciplinary planning process, the issues that continue to be important for the proposed Shamrock sale center on northern goshawk, for which monitoring has been proposed, the loss of habitat (e.g., deer winter range), and potential effects on deer populations, for which monitoring has now been proposed.

Comment 9-35

Species selected to be MIS need to include all species of concern in the project area, including fish and wildlife. Species to be added include Vancouver Canada geese, a snag dependent species, marbled murrelets, wolves, coho salmon, and cutthroat trout at a minimum. One species which could possibly be dropped due to the sale location is river otter.

Response 9-35

MIS have been selected for the entire Tongass National Forest; those species that were evaluated for the Shamrock EIS were selected during the interdisciplinary process as being the most-likely-affected of the Tongass MIS.

Comment 9-36

...DEIS does not include maps that depict the overall topography of the study area... Contour lines of at least 500 foot intervals should be shown on (the alternative) maps or on Figure 3-3... Figure 3-3 should also include stream courses.

Response 9-36

A reproduction of a portion of a 15 minute USGS quadrangle sheet with the Shamrock area delineated on it has been added to the FEIS (Figure 1-3). This map accurately shows the overall topography of the study area. Contour lines were not included on the alternative maps nor on Figure 3-3 because it was felt they would obscure the information the respective maps were intended to show. Contour lines at 100 foot intervals are shown in the unit summary maps and indicate the slope and aspect of the units and the surrounding terrain.

Comment 9-37

On p. 4-83, harvest Unit 61 is included in Alternative 5 yet the simulated view of this alternative in Figure 4-1 does not include it. On p. 4-85, Unit 37 does not appear in Figure 4-2c.

Response 9-37

The simulated view of Alternative 5 on page 4-83 has been revised to include Unit 61. Unit 37 is depicted in both simulated views (Alternatives 2, 4 and 5) on page 4-85 of the Draft EIS. The unit is shown on the shaded side of the slope and therefore is darker in value than adjacent units.

Comment 9-38	...it should be noted that 100-foot buffers are not guaranteed against blowdown.
Response 9-38	Comment is noted.
Comment 9-39	DFG is concerned that in this DEIS the Forest Service avoids the issue leaving the designation of retention for the "future."
Response 9-39	Areas to be managed as old-growth habitat throughout the life of the Shamrock project are described in the FEIS.
Comment 9-40	Rather than rely on unsubstantiated interim guidelines for the protection of (the northern goshawk) nest, DFG recommends Unit 6, along with the associated section of road, be deleted from the sale.
Response 9-40	See response 3-6.
Comment 9-41	(The unit) cards...fail to provide the level of detail DFG needs to make unit specific ACMP consistency determinations for a timber sale.
Response 9-41	The unit summaries in Appendix A are summaries of the complete unit analyses documented in the unit design cards, which are part of the project planning record. They are intended to highlight the important characteristics and concerns of each unit.
Comment 9-42	...the road descriptions did not provide site specific habitat information for the crossings of anadromous fish streams (which is still needed)...
Response 9-42	See responses to comments 9-45 and 9-46 below.
Comment 9-43	The Forest Service is to be commended for (the road card) portion of the DEIS.
Response 9-43	See Response to 9-1.
Comment 9-44	...the Forest Service needs to avoid situations where logs must be yarded without full suspension across Class III tributaries to anadromous fish habitat. Units need to be designed to enable directional falling and yarding away from these surface waters... Several units which appear to be inconsistent with this standard include at a minimum Units 3, 6, 13, 25, 45, 81, and possibly small blind leads or areas requiring yarding adjacent and parallel to V-notches or streams in Units 25, 40, 51, and 51M.
Response 9-44	The interdisciplinary team proposed yarding logs away from most Class III streams for all harvest units considered in all action alternatives. For most of the units mentioned (13, 25, 51, 51M and 81) units were designed to yard away from Class III streams. For Units 3 and 45 partial suspension was proposed to minimize disturbance to streambanks, and partial suspension for Unit 6 has been added in the FEIS. The downstream impacts of yarding across Class III streams in Units 3 and 40 did not pose an adverse impact to anadromous fish habitat based on the interdisciplinary analysis. Redesigning these units to completely avoid yarding

across Class III streams could result in even greater disturbance because of the additional road mileage and settings that would be required.

Comment 9-45

If spawning habitat is present, structures at the following crossings may need to be redesigned to protect spawning habitat: road 6314, station 603+21; road 6314, station 772+27; road 45808, station 48+40; road 45808, station 52+70.

Response 9-45

This comment presumably refers to the potential for road crossings to restrict stream flows resulting in scour of spawning gravels. Each of the structures at these crossings was oversized to try to prevent scour. However, even if scour did occur during high flows, the effect would be very localized and would not significantly affect the total quantity of spawning habitat available to fish.

The crossing at Sta. 48+40 has been relocated to Sta. 38+51. The crossing at this point is a 15'6" X 9'5" Corrugated Metal Pipe Arch (CMPA).

Comment 9-46

Maintenance of fish passage for Class I and II streams where the natural stream gradient is too steep to enable a culvert bedded at the natural gradient to pass fish. There are a large number of culverts in this category. Each one of these crossings will need some kind of mitigation to assure juvenile fish passage...

Response 9-46

The highest natural gradient on a class I stream crossing is 10 percent and this is to be spanned with a 40 foot bridge that will ensure maintenance of fish passage. All other class I stream crossings have gradients low enough ($\leq 5\%$) to ensure continued fish passage.

Several class II stream crossings involve gradients greater than 10 percent. However, streams with gradients greater than 10 percent typically contain little spawning or rearing habitat for salmonids and likely contain few or no fish.

Comment 9-47

There are numerous rock pits that pose significant risk to fish due to overpressure from blasting and drainage from pits into fish habitat. This includes all rock pits that are less than 0.1 mile from a fish crossing. (paraphrased)

Response 9-47

Most pits are located at a distance that will preclude damage to fish habitats. Previous experience with other rock pits within the Stikine Area indicates that blasting overpressure and drainage does not pose a hazard to fish.

Comment 9-48

Several critical areas...may present too much risk to downstream aquatic resources:

- road 45803: mile 2.32 to 2.40
- road 45804: mile 1.92 to 2.02
- road 45804: mile 2.33 to 2.41

DFG will need additional assurance that these segments can be safely constructed...

Response 9-48

Road segments 45803, mile 2.32 to 2.40 and Road 45804, mile 1.92-2.02 have been changed. These changes eliminate the potential impacts present in the original segments.

Road 45804, mile 2.33 to 2.41 is separated from the Castle River by a minimum of a 1/4 mile buffer, and from other fish bearing streams by a minimum 100 foot buffer. Consequently, impacts to fisheries are not expected to further ensure protection of fisheries resources the following measures will be taken: all excavated material will be end hauled, roadside ditches and drainage ways will be rip-rapped to prevent erosion, additional culverts will be used to remove surface water, and the road will be closed following completion of harvest in Units 24, 55, and 81.

Comment 9-49

DFG would like to see additional site specific information in the FEIS to assure DFG that timber harvesting will not trigger mass wasting.

Response 9-49

Additional site specific information is available in the planning record in the form of soils sampling data sheets, the soils inventory resource report, and the unit and road design cards.

Comment 9-50

Although fish passage will be monitored for effectiveness, there is no indication that culverts that do not provide fish passage will be replaced. (paraphrased)

Response 9-50

The objective of all drainage structures on fish streams is to pass fish. If this is not accomplished, each situation is analyzed to determine the most cost effective method to resolve passage problems.

Comment 9-51

Each road the Forest Service builds on the Tongass adds to the risks to fish and wildlife resources. And the less these roads are maintained, the greater the risk. If the Forest Service is going to continue to add to the road system, they must also make an equivalent commitment to maintaining these roads.

Response 9-51

The Forest Service is responsible for maintaining and if necessary reconstructing damaged roads. Commercial use of a Forest Service road cannot be done unless the road is maintained by the user or a fee is charged and collected for the user. The Forest Service budgets for maintenance are established a year in advance and only cover "normal" maintenance. Extraordinary situations, such as washouts, slides, and culvert failure, are not budgeted for and corrective action for such problems is taken when funds are specifically appropriated for the job.

Comment 9-52

Statements on page 4-32 and 4-33 regarding temperature effects of harvest along Class III streams are contradictory and need to be clarified. (paraphrased)

Response 9-52

See response to Comment 4-1.

Comment 9-53

DFG is pleased to note that a good deal of Division of Subsistence data and source material has been incorporated into the analysis.

Response 9-53

The data supplied to the planning team by ADF&G was enormously helpful and of exceptionally high quality. The planning team wishes to thank ADF&G, Subsistence Division, for their cooperation in, and comments on, this EIS.

Comment 9-54	...DFG does not agree with the 810 finding which suggest that there will be no significant restrictions on subsistence either from the project or from forest-wide activities.
Response 9-54	The 810 findings have been changed. Refer to the revised Subsistence section in Chapter 4 of the Shamrock FEIS.
Comment 9-55	Selection and scheduling of the Shamrock harvest(s) and selection of the preferred alternative was not conducted with consideration of subsistence effects. (paraphrased)
Response 9-55	We disagree. The EIS demonstrates, and the planning record substantiates, that considerations of fish, wildlife, and subsistence were included in the discussion of possible alternatives. Refer to the discussion of alternatives presented in Chapter 2.
Comment 9-56	Information taken from "Subsistence Resource Use Patterns in Southeast Alaska" should be cited. (paraphrased)
Response 9-56	Point well taken. Several references have been added to the Subsistence sections of both Chapters 3 and 4 of the FEIS.
Comment 9-57	On page 3-44, the reference to Figure B-1...should read Figure C-1.
Response 9-57	Correction noted.
	In the section on "Community Specific Subsistence Use":
Comment 9-58	1) pounds of resources harvested should be clearly represented as averages and referred to as <i>per capita</i> subsistence harvest; (paraphrased)
Response 9-58	Correction noted.
Comment 9-59	2) the phrase "seasonal economy"...should be changed to "seasonal employment"; and the phrase "economic sectors" should be changed to "employment sectors"; (paraphrased)
Response 9-59	Correction noted.
Comment 9-60	3) the concept of a mixed cash-subsistence economy should be introduced, so that subsistence harvest is not characterized as a supplement to the economy but shown as an integral part of the economy that continues year-round.
Response 9-60	We agree. Refer to revised Subsistence section in Chapter 3 of the FEIS.
Comment 9-61	Information on community harvest patterns needs to be analyzed so that both pre-1975 and projected 1993-2040 demand are both presented. This should be done by determining projected demand based on community/regional population increases and historic/present harvest levels. (paraphrased)

Response 9-61 We agree. Refer to the revised and expanded Subsistence section in Chapter 4 of the FEIS.

Comment 9-62 Subsistence effects need to be analyzed with respect to past, present, and future levels of harvest under the range of action alternatives. The analysis should be presented in tabular and graphic form. (paraphrased)

Response 9-62 Where feasible this has been accomplished. However, the dearth of accurate, factual statistics on historical hunter demand on Kupreanof Island, combined with a dependence on computer habitat models that can only estimate deer populations, prevent the planning team from making precise assessments of subsistence impacts to the degree of specificity desired by ADF&G and others. Thus the analysis presented in the FEIS does analyze past, present, and future deer harvest, and it does present that analysis in graphical form. Impacts for each alternative are estimated to the extent possible given the limitations of the available data.

Comment 9-63 It is erroneous to equate avoidance of logging on areas that have high subsistence use (e.g., beach fringe, estuary fringe, and riparian areas) with protection of "highest value subsistence use areas." Since wildlife populations depend on other habitat areas, impacts away from the high subsistence use areas could affect the value of the high use areas. (paraphrased)

Response 9-63 We agree. Refer to the revised Subsistence section in Chapter 4 of the Shamrock FEIS.

Comment 9-64 The 810 determinations need to be clearly represented by community, WAA, project-specific, and cumulative effects.

Response 9-64 We disagree, given the information available. See the response for comment 9-62.

Comment 9-65 No mention is made of 810 hearings on this DEIS... DFG encourages the Planning Team to conduct subsistence hearings in the affected communities.

Response 9-65 Hearings were held after the DEIS and DEIS Supplement were published. See response to comment 9-10.

Comment 9-66 There is little evidence in the DEIS for mitigation of subsistence effects. Monitoring of subsistence impacts needs to be implemented to assess subsistence effects. (paraphrased)

Response 9-66 Please review "Displacement of Subsistence Users, within the Subsistence Section of Chapter 4 of the FEIS. See response to Comment 6-6 with regard to monitoring of effects on deer.

Comment 9-67 The normal Forest Service procedure for project implementation and contract enforcement is not considered monitoring. An activity is considered monitoring only if the results are summarized and reported. (paraphrased)

Response 9-67

As specified in FSH 1909.12.6, "Forest and Ranger District personnel conduct implementation monitoring as part of their routine assignments and document the results in project files as part of their management responsibilities. Implementation monitoring is used to determine if plans, prescriptions, projects, and activities are implemented as designed and in compliance with forest plan objectives and standards and guidelines." Results of implementation monitoring and project enforcement are filed by project in the Ranger District offices, and the Forest Service is working with ADEC to resolve differences in how the results of implementation monitoring should be summarized and reported.

Comment 9-68

It is expected that the Shamrock timber sale will be included in the effectiveness monitoring plan now under development in the Stikine Area. (paraphrased)

Response 9-68

You are correct. The Shamrock timber sale will be included in the effectiveness monitoring program now being developed in the Stikine Area.

Comment 9-69

Overall, the unit cards appeared to be adequate.

Response 9-69

Comment noted.

Comment 9-70

It is unclear what protection is intended for Class III streams in Units 2, 4, 5, 6, 10, 11, 13, 22, 24, 25, 28, 32, 33, 36, 45, 51, 51M, 55, 81, and 82. (paraphrased)

Response 9-70

Protection measures regarding Class III streams are contained in the Unit Summaries in Appendix A. Yarding logs away from streams is the proposed protection for Class III streams in Units 2, 4, 5, 10, 11, 13, 22, 25, 28, 51, 51M, 55, 81 and 82. Directional falling and removal of logging debris from stream channels is the proposed protection for Units 10, 32, 33 and 45. Partial suspension over one Class III stream is the proposed protection in Unit 45; partial suspension is also proposed on slopes adjacent to Class III streams in Units 6 and 10. No Class III streams were identified in Units 24 and 36.

Comment 9-71

...DEC suggests examining the risk of windthrow for buffers associated with Units 43 and 48.

Response 9-71

The risk of windthrow was considered during the design of both harvest units. The design of Unit 43 was modified to exclude an area south of the proposed southern boundary because of potential risk to the Class II stream buffer. Some windthrow along the northwest boundary of Unit 48 may be unavoidable. The general orientation of probable storm winds is southwest-northeast, which follows the drainage. The maximum wind exposure is to the northeast corner of the unit, not the buffer strip. Because of yarding limitations, the windthrow risk in this area cannot be eliminated.

Extensive on the ground examination was done in Unit 43 to try and design windfirm boundaries. Unit 43 was redesigned following these surveys to maintain windfirmness to the greatest extent practicable.

Blowdown is discussed on page 4-33 of the DEIS.

See also response to Comment 2-5.

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22 November 1993

Stikine Area	
DEC 1 1993	
Forest Supv	
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Eng. Staff	
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Planning Staff	
RL Staff	
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The City of Kupreanof appreciates the opportunity to respond to the Draft Environmental Impact Statement for the proposed Shamrock Timber Sale(s).

It is important for the reader of these comments to understand the City of Kupreanof would like to see an environmentally and economically responsible approach to the timber harvest of the Tongass National Forest. Responsible timber harvest accomplished on an **appropriate scale** of harvest can provide a vital aspect of a sustainable and diverse economic base for the economy of southeast Alaska and the City of Kupreanof.

Currently the island of Kupreanof must endure what can only be termed a frantic rush to "develop" its virgin temperate rainforest into pulp and sawlogs. The proposed Shamrock Timber Sale along with Bohemia Timber Sale, the South Lindenberg Timber Sale, and the North Irish Creek Reoffer Timber Sale are all being planned **simultaneously** for Kupreanof Island. The combined timber sales represent hundreds of millions of board feet of old growth timber, hundreds of miles of logging roads, and thousands upon thousands of acres of clearcuts for the island of Kupreanof.

1a The pace of the planning effort has precluded an appropriate Area Analysis as required by the current Tongass Land Management Plan.

1b The pace of the planning effort is such that the Shamrock Timber Sale had to be sub-contracted to a firm 800 miles away. This, despite the fact that the local Forest Service offices employ unprecedented levels of timber planning personnel.

The pace of the timber harvest planning efforts of the Forest Service is resulting in a divisive social dilemma which pits those who prosper in the short term economic scenario with those who recognize southeast Alaska will inevitably suffer the same fate as the Pacific Northwest timber-dependent communities.

2 There are a good deal of serious concerns about the tone and manner of this planning effort reflecting single-use objectives of the study area. In general, there seems to be a genuine lack of concern about the environmental and economic effects of this sale which strikes at the heart of Kupreanof Island and the residents of the City of Kupreanof. The writers of this DEIS demonstrate a prevailing attitude that mere mention of progressive or reform minded catch words and nomenclature will suffice to allow for the continuation of politically driven timber harvest on the Tongass.

CITY OF KUPREANOF ALASKA

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(pg.2)

3 | Thus, a NEPA-required No Action Alternative has been listed, but no serious consideration of that alternative made. Meaningful application of the No Action Alternative is precluded by a politically decided ASQ, and executed in perfunctory fashion by a heavily biased agency. The study area is already recognized as having relatively poor quantities of commercial timber, poorly drained soils, with biodiversity of wildlife likely to suffer from further fragmentation of the landscape. Given past, present and future increases in subsistence use of the wildlife on Kupreanof Island, a shift of public attitudes towards a more conservative approach to timber harvest, and a shift in local economies towards non-consumptive uses of national forest land, a strong case exists for a No Action Alternative to be considered. This document fails to adequately discuss and seriously address the benefits of such an alternative.

4 | While lip service was given to New Perspectives Forestry and the Viable
5 | Populations Committee which embraces the concept of Habitat Conservation Areas
6 | and timber harvest at the edges of old growth blocks, the preferred alternative targets the centers of important old growth blocks of the study area and ignores any establishment of HCAs! It ignores probable effects of logging roads on wolf migration corridors and subsequent predation on Sitka Blacktail deer. A particularly casual attitude and after-the-fact response of timber harvest impacts to wildlife prevails throughout the Shamrock DEIS.

7 | Acknowledging the study area "...may be closer to the threshold for a sharp decrease in species diversity.", it also recommends wildlife monitoring after "...harvest on the island approaches 25 percent of the old growth... to assess the effects of habitat fragmentation". With this level of biological dedication and concern overseeing timber harvest of our national forests it is no wonder species such as the spotted owl are forced to the edge of extinction.

8 | Proportionality as identified by the Tongass Timber Reform Act is also mentioned and even apparently feigned, using inappropriate methods of analysis. A closer look at the DEIS will reveal the agency has no intention of applying proportionality rules of the Tongass Timber Reform Act even though KPC is quite likely to bid on the sale.

Sincerely, *Dave Beebe*
Dave Beebe, Councilman
City of Kupreanof

City of Kupreanof (#10)

Comment 10-1

The island of Kupreanof is undergoing a frantic rush to develop its virgin temperate rainforest, as the Shamrock, Bohemia, and South Lindenberg timber sales and North Irish Creek Resale are all being planned simultaneously. (paraphrased)

- a) The pace of the planning effort has precluded an appropriate Area Analysis as required by the current TLMP.

Response 10-1

See response to comment 1-1.

- b) The pace of the planning effort is such that the Shamrock timber sale had to be sub-contracted to a firm 800 miles away. This, despite the fact that the local Forest Service offices employ unprecedented levels of timber planning personnel.

The planning effort is a complex undertaking with increasing time requirements. Other job requirements (e.g., monitoring) have also increased the need for additional personnel. The number of employees is a reflection of the workload. The preparation of this document was contracted out to reduce the workload and reduce the need for even more employees.

- c) The pace of the timber harvest planning efforts of the Forest Service is resulting in a divisive social dilemma...

We recognize that the people residing on Kupreanof Island and in the surrounding region have different interests and perspectives in how the resources of the island should be used. The social effects of the current planning effort over the whole of Kupreanof Island is, however, beyond the scope of the analysis for this project and have been addressed in Forest Service planning efforts, past and ongoing.

Comment 10-2

...there seems to be a genuine lack of concern about the environmental and economic effects of this sale...

Response 10-2

The Shamrock EIS is intended to document what the existing conditions and expected impacts of the proposed timber sale are. It covers a wide range of pertinent environmental resources and issues, including economics. It is to be used by the public as a basis for comment on the project and by decision makers in reaching an informed decision on which alternative best suits the purpose and need of the project while minimizing adverse impacts.

Comment 10-3

Thus, a NEPA-required No Action Alternative has been listed, but no serious or meaningful consideration of that alternative made. Meaningful application of the No Action Alternative is precluded by a politically decided ASQ, and executed in a perfunctory fashion by a heavily biased agency.

Response 10-3

The purpose of the No-Action alternative is to provide a benchmark by which the effects of the alternatives are measured. The Forest Supervisor can select any alternative.

Comment 10-4

...the preferred alternative targets the centers of important old-growth blocks of the study area and ignores any establishment of HCAs...

Response 10-4

The preferred alternative disperses harvest units in three general areas, some of which are larger old-growth blocks. Substantial blocks of unharvested old-growth remain in the Shamrock area, particularly in the western portion, that would allow the establishment of HCAs in any future implementation of the Viable Population Committee recommendations.

Comment 10-5

...(the preferred alternative) ignores probably effects of logging roads on wolf migration corridors and subsequent predation on Sitka blacktail deer.

Response 10-5

See response to Comment 9-26.

Comment 10-6

A particularly casual attitude and after-the-fact response of timber harvest impacts to wildlife prevails throughout the Shamrock DEIS.

Response 10-6

Such a perception was not intended.

Comment 10-7

The DEIS states that the study area may be closer to the threshold for a sharp decrease in species diversity and recommends wildlife monitoring after harvest on the island approaches 25 percent of old-growth. With this level of concern, it is no wonder that species such as the spotted owl are forced to the edge of extinction. (paraphrased)

Response 10-7

As you point out and which is also pointed out in the section on biodiversity in Chapter 4, the mosaic of old-growth forest and non-forested muskeg in the Shamrock area represents a naturally fragmented forested habitat that may be closer to a threshold for decrease in diversity of old-growth dependent species due to further fragmentation. Our understanding of species diversity in Southeast Alaska is, however, not at a point where the relationship between species diversity and the proportion of forest/non-forest habitat is known. In any case, the degree of fragmentation resulting from harvest activities of the proposed Shamrock sale alternatives has been quantified in the biodiversity section of Chapter 4 and is shown to be relatively small. This level of fragmentation is not expected to significantly lower habitat capability for wildlife.

Regarding monitoring of wildlife, see response to comment 9-18.

Comment 10-8

Proportionality as identified by the Tongass Timber Reform Act is also mentioned and even apparently feigned, using inappropriate methods of analysis.

Response 10-8

The analysis of old-growth harvest by volume class on pp. 4-36 and 4-37 of the DEIS was not intended to be a formal proportionality analysis, as defined by TTRA. Since several commentors found this to be misleading, it has been deleted in the FEIS.

FILE COPY

Michael Medalen
Box 969
Petersburg, AK 99833
Nov. 10, 1993

RECEIVED

NOV 25 1993

Ron Brockelman
EA Engineering, Science, & Technology
8520 154th Ave.,
Redmond, Washington 98052

EA Engineering Science & Technology
Northwest Operations

re; Shamrock DEIS

Dear Mr. Brockelman;

I will begin my comments with your preferred alternative (#5). I guess the obvious place to object to this proposed boondoggle is the economics of it. As a taxpayer I'm appalled at the idea of the 5.5 million dollars deficit spending on this one sale to provide rival industrial nations with raw materials they need to compete with U.S. industries. The need for cellulose for plastics and tight grained (old growth) spruce are examples of this. (The USFS tries to pretend that this isn't what these timber sales are for, but considering that over 99% of the timber cut in S.E. Alaska in the past 40 years has gone overseas with minimal value added processing it's a safe bet that this sale's timber will go overseas also.)

We are told that this sale will generate about 363 jobs directly and indirectly. While that number seems to be rather high, for the sake of my figuring I will go with it. If you divide \$5,500,000.00 by 363 you get \$15,151.52. You could pay each of the 363 persons a rounded off figure (for neatness' sake) of \$15,000.00 not to road and log the area (alternative #1, the rational person's alternative). This would be a net gain of \$55,001.76 to the taxpayer compared to alternative #5!

With \$15,000.00 to keep up their standard of living, each person could then get a job in one of the local canneries. The canneries could then hire 363 less people from Mexico. Since many of the foreign workers send their wages home 363 local workers would help the U.S.' balance of trade favorably.

Denying foreign industry essential raw materials would also be favorable to U.S. industry.

If you went with alternative #1 (and shared the savings) you could provide 363 jobs, favorably affect our balance of trade, save taxpayers money, give domestic industry a competitive edge, maintain a maximum amount of wildlife habitat, protect valuable fish streams, and provide recreation for the increasing numbers of people who's idea of fun is something other than driving along a bumpy, low grade road veiwling a wasteland of former forest denuded at taxpayers expense. Clearly, from an economic standpoint, alternative #1 has it all over the other four alternatives!

As a commercial fisherman your mention of possible increases in stream water temperature is also of great concern to me, as is sedimentation problems. The Forest Service has a very poor record where stream protection is concerned. Logging related die-offs of salmon due to warm water and low water levels in some streams this summer are proof of that. The mud slides on Prince of Wales Island this year are the result of the Forest Services lack of concern with sedimentation due to roading and logging areas with unstable soils. There is no reason to believe that any more care will be taken if this area is roaded and logged.

"All (action) alternatives would pose some risk to fisheries." as is stated in the summary of the Shamrock Timber Sale DEIS. Any risk to the fisheries resources in this area are unacceptable in exchange for the minor short-term benefits of a timber sale. Besides a salmon industry in the region that provides consistant long term employment, the Castle

-2-

River steelhead run, which is already at an all time low for unknown reasons, would also be at risk.

4 In the Environmental Consequences chapter of the DEIS it states "The objective for Class I and II streams is to maintain the natural migration of adult and juvenile anadromous and resident fish populations where economically feasible." Quite obviously the most economical way to put a road across many streams would be to dump a minimal size culvert in the stream, dump rock on it, and keep going. Clearly, from a fisheries standpoint, we have no guaranty that the best practices will be followed in the building of stream crossings.

5 As a subsistence hunter and fisherman I have concerns about deer as well as salmon. Northern Prince of Wales Island no longer has readily huntable deer. As a direct result of poor timber management there are many places that were once good hunting that no longer are. Other places, such as Admiralty Island, have declining populations due to hunting pressure and other reasons. Since Kupreanof, Mitkof, and Kuiu Islands are finally recovering from a freak crash in deer population, the like of which probably won't happen again for at least a century if ever (without the help of a U.S. Forest Service forest management plan that is), the hunting pressure will be intense. Sport and subsistence deer hunters from Petersburg, Wrangell, Kake, Point Barrow, and Port Protection will all be concentrated on these islands.

6 An area wide analysis should be done with full public participation covering subsistence resources on all these islands and the cumulative effects of all projected logging and road-building for the duration of the projected timber rotation. This analysis should be done before any more logging or road-building is done in the Shamrock area or any where else on these islands.

7 Of other concerns is the downplaying of the fragmentation effect and the impact of a sale on the subsistent deer population in the region. The deer hunted from the beach on these islands are often ones that have moved from inland areas when the snow comes. In heavy snows roads, clearcuts, and muskegs can become difficult and even impossible for deer to cross. Not only does this disrupt their normal travel patterns, but in a bad winter it can cause their death if they are caught on the wrong side.

This coupled with other impacts on their populations caused by roads such as increased poaching, increased wolf predation (wolves can and do travel on top of heavy snows and their use of roads as travel corridors often leads them right into areas used by deer) and use by sport hunters from other towns (using the ferry system to bring their vehicles) will greatly diminish subsistence hunting by locals using boats.

8 Lastly, isn't it rather ridiculous to claim roaded recreation as a plus in an area that already has enough roads that everyone locally could probably be given their own 1/2 mile stretch and still have plenty left unclaimed for visitors.

Sincerely,

Michael Medalen

Michael Medalen

Michael Medalen (#11)

Comment 11-1

As a taxpayer I'm appalled at the idea of the 5.5 million dollars deficit spending on this one sale... We are told that this sale will generate 363 jobs... (Under Alternative 1), you could pay each of 363 persons...\$15,000 not to road and log the area... This would be a net gain of \$55,001,76 to the taxpayer compared to Alternative 5.

Response 11-1

In reality, the government will not pay an operator 5.5 million dollars to harvest a timber sale. The Forest Service is governed by regulations which establish minimum rates for species and species groups. Timber cannot be advertised and sold below these rates. For the species and species groups proposed to be harvested on the Shamrock project, minimum rates are \$6.00/MBF for spruce sawlogs, \$1.00/MBF for hemlock sawlogs, \$10.00/MBF for Alaska cedar sawlogs and \$1.00/MBF for spruce and hemlock utility logs. If there are no bids for timber at or above these rates then no timber sale contract is awarded.

Forest Service timber cannot be sold below minimum rates. The estimated deficit shown in the mid-market appraisal is based on a ten year average of market prices that experience wide fluctuations. The general tendency for prices is to increase at the rate of inflation, plus some real price increases. The purpose of the mid-market appraisal is to show the relative efficiency between alternatives. It is not the financial loss to the government. Also see response to Comment 1-7.

Comment 11-2

As a commercial fisherman, your mention of possible increases in stream water temperature is also of great concern to me as is sedimentation problems. The Forest Service has a very poor record where stream protection is concerned.

Response 11-2

See response to comment 4-1 for a discussion of temperature increases.

Action alternatives in this DEIS contain a variety of measures to limit sediment inputs to streams. These measures include: retention of streamside buffers, directional felling and yarding of logs away from streams, partial log suspension in many units, surfacing of roads with erosion resistant rock, and proper routing of water away from road surfaces. These measures are Best Management Practices (BMPs) and represent our best understanding of how to minimize sedimentation.

Despite all this, some fine sediment will be transported to streams. The amount of sediment, however, is expected to be low and should not negatively impact fish.

Comment 11-3

Any risk to the fisheries resources in this area are unacceptable in exchange for the minor short-term benefits of a timber sale.

Response 11-3

Acknowledgement of potential impacts is required because every management action involves some risk to other resources including fisheries. However, considerable effort has been expended to protect fisheries resources within the study area, through road and unit placement, identification of protective buffers and construction "windows," and through a monitoring program during harvest activities. Given these protective measures, the risk of the action alternatives has been significantly reduced.

Comment 11-4

In Chapter 4 it states that "the objective... is to maintain the natural migration of... fish populations where economically feasible." Since the most economical way to construct

a fish crossing is to put in a minimal size culvert, we have no guaranty that best practices will be followed in the building of stream crossings. (paraphrased)

Response 11-4

Minimal sized culverts have not been used in the design of road crossings for this analysis. Instead, every effort has been made to identify structures that will ensure fish passage over time. The Forest Service is committed to road construction techniques that provide adequate fish passage.

Comment 11-5

As a subsistence hunter, I have concerns about deer. In many places, poor timber harvesting has directly resulted in a decline in hunting success. Since Kupreanof Island is finally recovering from a freak crash in deer population, the hunting pressure in this area from both sport and subsistence hunters will be intense. (paraphrased)

Response 11-5

We agree. Refer to the revised Subsistence section in Chapter 4 of the Shamrock FEIS.

Comment 11-6

An area wide analysis should be done with full public participation...

Response 11-6

See response to comment 1-1.

Comment 11-7

Of other concerns is the downplaying of the fragmentation effects and the impact of a sale on the subsistence deer populations. In heavy snows, roads, clearcuts, and muskegs can become difficult and even impossible for deer to cross, resulting in disruption of travel patterns and even death. Roads also result in increased poaching, wolf predation, and use by sport hunters via the ferry system. (paraphrased)

Response 11-7

The text has been revised to indicate the increased potential for wolf predation and sport hunting. Poaching had been mentioned in the DEIS.

Comment 11-8

...isn't it rather ridiculous to claim roaded recreation as a plus in an area that already has enough roads...?

Response 11-8

New roads constructed in the study area for the purpose of logging will allow for public vehicular access into areas that are currently accessible by air and foot only. This increased public access will benefit those members of the public that prefer vehicle supported recreation activities. Roads will also provide new opportunities for non-motorized activities such as mountain biking and walking/jogging.

FILE COPY

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November 20, 1993

NOV 19 1993

Mr. Ron Brockelman
EA Engineering, Science, & Technology
8520 154th Avenue
Redmond, Washington 98052

EA Engineering Science & Technology
Northwest Operations

Dear Mr. Brockelman,

I am writing these comments in regards to the proposed Shamrock timber sale and the Draft Environmental Impact Statement. As a long term resident of Petersburg, Alaska I am very concerned about the ramifications of this sale.

My first concern with any logging which occurs in this area relates to the impacts it will have on fish and wildlife habitat. For this sale, I am particularly concerned about any logging which may occur on tributaries which provide habitat for steelhead and cutthroat trout. One area that really sticks out in my mind, is Castle River. Castle River is a very temperature sensitive stream. Fish kills due to warm water have been documented in this system. This year, for the first time I am aware of, Castle River was placed under emergency regulations due to declining stocks of steelhead. Logging the tributaries to Castle River could easily further stress this system and cancel out any benefits accrued by these emergency regulations. Castle River has high recreational value and has been used heavily for many years by the residents of Petersburg and Kupreanof. For the reasons I have mentioned, I hate to see any logging occur on the tributaries of Castle River. At a minimum, I want to see protection for this system such as PACFISH would provide. Although I realize the PACFISH strategy has not been adopted for Alaska at this time, it is a model that I would like to see used for this timber sale.

This year was the first time since 1975 that Kupreanof Island has been opened for deer hunting. And, I believe, the first time that it has ever been opened for moose hunting. I doubt very much that these new hunting seasons will last very many years considering the amount of timber cutting that is planned for Kupreanof Island. These sales seriously threaten to fragment the small amount of high value deer and moose habitat that is currently found on Kupreanof Island. Current old growth tracts must be left intact. Cutting units should only occur on the edges of the old growth tracts, rather than in the middle, to avoid fragmentation. Locating cutting units in high value deer winter range must also be avoided at all costs.

Considering the large amount of clearcuts found around Kake now and the resulting loss of deer habitat, subsistence users from Kake will find other deer habitat on Kupreanof Island of even greater importance. With additional roads being built to access the proposed timber sales, and the fact that Kake is serviced by the Alaska Marine Highway system, I believe

3
CONT.

harvester impacts on the wildlife resources will rise dramatically. Non-subsistence hunters will definitely impact the subsistence users in this area. For instance, displaced hunters due to Federal Subsistence Board closures on Chicagof Island to non-subsistence users may find this area very attractive for hunting.

4

Wildlife retention areas must be specifically identified. This is required by TLMP. I request that this be done with a supplement to the Draft EIS. These areas were not identified in the DEIS therefore the public has had no opportunity to comment. These areas must be retained for longer than the life of the sale and should not be clearcut in the next sale without suitable replacements that are formally identified.

5

Realizing that the Shamrock sale is only the first of several timber sales proposed for Kupreanof Island in the next three years, I am extremely concerned about the cumulative effects these timber sales will have on species diversity, abundance, and habitat. Therefore, I believe it is imperative that an island specific analysis be conducted, with full public participation, prior to the planning process for this sale. The purpose would be to assess the ability of Kupreanof Island to sustain this proposed level of harvest. The public needs to know the long term effects of this logging on moose and deer populations and subsistence users. The Forest Service has an obligation to the public to make these disclosures.

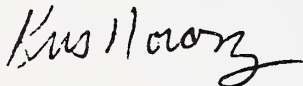
6

It is my understanding that this is an independent timber sale. As such, it should not be sold to one of the long term contract holder or their affiliates.

7

Let's face it Ron, the economics of this sale are atrocious! At \$149 per thousand board feet, this equates to a \$5.5 million dollar NEGATIVE return to the U.S. treasury dept. As a taxpayer, I cannot and will not support this kind of deficit timber sale. Loosing valuable recreational areas, and fish and wildlife habitat, coupled with a deficit timber sale is more than this taxpayer can stomach.

Sincerely,



Kris Norosz
P.O. Box 805
Petersburg, Alaska 99833

Kris Norosz (#12)

Comment 12-1

I am particularly concerned about logging in the Castle River drainage. This river is very temperature sensitive, has declining stocks of steelhead, and high recreational value. Logging the tributaries of this river could further stress this system and cancel benefits of recent emergency regulations. (paraphrased)

Response 12-1

See responses to comments 4-1 and 3-1.

Comment 12-2

The recent opening of Kupreanof Island to deer hunting is not likely to last very long due to the extent of timber harvesting planned for the island. The planned sales seriously threaten to fragment high value deer and moose habitat. Current old-growth tracts should be left intact, cutting should occur on the edges of these tracts, and high value deer winter range should be avoided. (paraphrased)

Response 12-2

Kupreanof Island deer populations have remained low for many years due to natural ecological pressures. Estimated changes to deer carrying capacity caused by the proposed Shamrock harvest are predicted in the FEIS. The duration of any hunting opportunity is primarily a function of the regulation of demand within the limitations of a sustainable resource population. The post-harvest capacity of the Shamrock area to meet deer population objectives was discussed in the FEIS.

Also see response to Comment 9-32.

Comment 12-3

There is likely to be increased hunting pressure in the Shamrock area due to the construction of roads that connect to the Alaska Marine Highway System. Non-subsistence hunters will definitely impact the subsistence users in the area. (paraphrased)

Response 12-3

Sport hunting pressures for subsistence resources can be managed by ADF&G and Federal Subsistence Boards (FSB) action and regulations. The FSB has the authority to restrict both sport and subsistence harvest.

Comment 12-4

Wildlife retention areas must be specifically identified. This is required by TLMP. I request that this be done with a supplement to the DEIS.

Response 12-4

Areas to be managed as old-growth habitat throughout the life of the Shamrock project are described in the FEIS.

Comment 12-5

...I am extremely concerned about the cumulative effects these timber sales will have on species diversity, abundance, and habitat. Therefore, I believe it is imperative that an island specific analysis be conducted with full public participation, prior to the planning process for this sale.

Response 12-5

See response to comment 1-1.

Comment 12-6

It is my understanding that this is an independent timber sale. As such, it should not be sold to one of the long term contract holders or their affiliates.

Response 12-6

The Shamrock sale(s) is currently planned for the independent offerings. It is possible that a long-term contract holder could purchase the sale(s).

Comment 12-7

...the economics of this sale are atrocious...this equates to a \$5.5 million negative return to the U.S. Treasury.

Response 12-7

Please see the response to comment 11-1.

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LETTER #13

NOV 16 1993

EA Engineering Science & Technology
Northwest Operations

Dr and Mrs R E Sprague
P O Box 567
Petersburg, Ak 99803

Ron Brockelman
EA Engineering, Science, & Tech
8520 154th Ave
Redmond Wash 98052

Re: Comments on Shamrock Timber sale

Dear Mr. Brockelman;

The following are our concerns about the Shamrock Timber Sale .

1 We feel too many sales on Kupreanof Island are slated for the next three years. We feel that an area analysis, with public participation, should be done to determine if Kupreanof Island can sustain these many cuts - Shamrock, Nah-Sheets, Irish Creek, Green Rocks and 5-Mile - Portage Bay Areas.

2 TMAP requires that retention areas be identified. This has not been done in the DEIS so that the public is unable to make comments.

3 Now that deer and moose hunts have been reinstated - we will be using this area for hunting. It has taken many years to even determine that the deer population could stand a hunt. Timber harvests in this area will make this determination very short lived.

Large blocks of old growth are what it takes to sustain deer and other old growth dependent species.

4 All road locations should avoid wolf migration corridors.
5 Also all cuts in the higher value deer winter range should be avoided.

6 We are concerned about cuts around the tributaries of temperature sensitive systems such as Castle River. Cuts around these tributaries will only increase the problems of fish kill due to warmer water temperatures.

7 Due to the fact that this is an independent timber sale it should not be sold to KPC or APC or their subsidiaries.

8 Also - no sale should be a negative return for the U.S. Treasury. We cannot support any sale of this nature.

Thank you

R & Mrs R E Sprague

Dr. and Mrs R. E. Sprague (#13)

Comment 13-1

We feel that an area analysis, with public participation, should be done to determine if Kupreanof Island can sustain these many cuts.

Response 13-1

See response to comment 1-1.

Comment 13-2

TLMP requires that retention areas be identified. This has not been done in the DEIS so that the public is unable to make comments.

Response 13-2

Areas to be managed as old-growth habitat throughout the life of the Shamrock project are described in the FEIS.

Comment 13-3

Timber harvests in this area will make (the recent opening of deer hunting in this area) very short lived. Large blocks of old-growth are what it takes to sustain deer and other old-growth dependent species.

Response 13-3

Kupreanof Island deer populations have remained low for many years due to natural ecological pressures, and estimated changes to deer carrying capacity caused by the proposed Shamrock harvest are predicted in the FEIS. The duration of any hunting opportunity is primarily a function of the regulation of demand within the limitations of a sustainable resource population. The post-harvest capacity of the Shamrock area to meet deer population objectives was discussed in the FEIS.

Comment 13-4

All road locations should avoid wolf migration corridors.

Response 13-4

The interdisciplinary team considered factors such as wildlife travel corridors, and attempts were made to minimize impacts to these corridors. However, it is not always possible to avoid such corridors and alterations in wolf movement are possible. The extent of that alteration and the resultant effects to deer are speculative at present. The text has been revised to reflect the issues of increased hunting and trapping pressure.

Comment 13-5

Also all cuts in the higher value deer winter range should be avoided.

Response 13-5

See response to Comment 9-32.

Comment 13-6

Cuts around (the Castle River) tributaries will only increase the problems of fish kill due to warmer water temperatures.

Response 13-6

See response to Comment 4-1.

Comment 13-7

Due to the fact that this is an independent timber sale, it should not be sold to KPC or APC or their subsidiaries.

Response 13-7

The Shamrock sale(s) is currently planned for the independent offerings. It is possible that a long-term contract holder could purchase the sale(s).

Comment 13-8

Also, no sale should be a negative return for the U.S. Treasury. We cannot support any sale of this nature.

Response 13-8

See Response to 11-1.

RON BROCKELMAN
EA ENGINEERING, SCIENCE & TECHNOLOGY
8520 154TH AVE.
REDMOND, WA. 98052

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NOV 25 1993

EA Engineering Science & Technology
Northwest Operations

NOV. 18, 1993

ALASKA WOMEN IN TREES
ALASKA SOCIETY OF AMERICAN FORESTDWELLERS
P.O. Box 129
Pt. BAKER, AK 99927

THANK YOU FOR THE OPPORTUNITY TO COMMENT ON THE DRAFT EIS FOR THE SHAMROCK TIMBER SALE. ANYONE OF IRISH DESCENT SHOULD FEEL PARTICULARLY OFFENDED BY THE CHOSEN NAME FOR THIS SALE. A BETTER, MORE APROPOS, NAME WOULD BE 'SHAMBLES' TIMBER SALE, BECAUSE THE ECOSYSTEM OF KUPREANOF ISLAND WILL BE IN SHAMBLES ... IF THIS SALE, AND THE SUBSEQUENTLY PLANNED SALES, ARE IMPLEMENTED. CUTTING 1,839 ACRES OF OLD GROWTH, AND RAMMING 31 MILES OF ROADS UP THE WATERSHEDS OF THIS FRAGILE ISLAND, IS A CONTINUATION OF MASS DESTRUCTION TIMBER EXTRACTION POLICIES. THESE EXTRACTION POLICIES ARE ANTIQUATED AND NEED TO BE REPLACED.

THIS SALE PLAN DOES NOT FULFILL TLMP REQUIREMENTS IN TWO VERY ELEMENTAL WAYS. THE FIRST SHORTFALL IS ITS FAILURE TO IDENTIFY WILDLIFE RETENTION AREAS. WILDLIFE RETENTION AREAS ARE THE MINIMUM STOP GAP MEASURES WHICH COULD ENSURE A VIABLE HABITAT BASE FOR SUBSISTENCE USE IN THE PLANNING AREA. WITHOUT SET RETENTION AREAS THERE IS NO BASIS UPON WHICH SUBSISTENCE CAN CONTINUE. THE TIMBER CART WAS SET BEFORE THE HORSE. THE UNIT LAYOUT IN THE DRAFT OF THIS PLAN NEEDS TO BE DISREGARDED UNTIL A COMPREHENSIVE WILDLIFE RETENTION SCHEME CAN BE WORKED OUT IN AN INTERAGENCY FORUM.

(2)

THE INTERAGENCY FORUM SHOULD BE MADE UP OF WILDLIFE SPECIALISTS AND SUBSISTENCE USERS FROM USFS, USFWS, ADFEG AND THE AFFECTED COMMUNITIES OF THE PLANNING LOCAL (IE, KAKE, KUPREANOF, PETERSBURG, PT. BAKER & PORT PROTECTION) FINDINGS FOR WILDLIFE RETENTION AREAS SHOULD BE CONSISTANT IN EVERY CONSIDERED ALTERNATIVE. THE

3 HABITAT OF KUPREANOF IS SO FRAGMENTED IN IT'S NATURAL STATE THAT EXTRA SPECIAL CARE SHOULD BE GIVEN TO PROTECT KEY AREAS & WATERSHED CORRIDORS.

THE COMPUTER MODELS IN THIS DEIS POINT TO DEER HABITAT AS BEING SUBSTANDARD & NOT PRIME; HOWEVER, IT IS THE FLAW OF THE MODEL TO NOT BE ISLAND SPECIFIC. THE SEEMINGLY 'SUBSTANDARD' DEER HABITAT ON KUPREANOF 4a IS THE VERY BEST IN THE ISLAND ECOSYSTEM, & SHOULD BE RECOGNIZED FOR ITS HIGHTENED SENSATIVITY, NOT LOGGED IN SPITE OF IT.

5 UNIT DESCRIPTIONS ARE DEVOID OF FIELD OBSERVATIONS. THIS IS A MAJOR FLAW IN THIS DRAFT. WITHOUT FIELD OBSERVATIONS THE PUBLIC IS BEING DENIED INFORMATION THAT IS ABSOLUTELY CRITICAL & IMPARATIVE TO FORMULATING GOOD JUDGEMENT.

6 THE MAPS ALSO ARE DEVOID OF INFORMATION.

7 THIS DRAFT WAS DESIGNED TO ELIMINATE THE PUBLIC FROM MAKING INFORMED CHOICES.

WHY INVOLVE THE PUBLIC IN THE PROCESS ONLY TO ELIMINATE THEM

(3)

BY LACK OF MEANINGFUL INFORMATION. THE MAPS IN THIS DEIS ARE PATHETIC!

46 THE HABITAT QUALITY TERMINOLOGY IS 'TOTALLY BOGUS & IRRELEVANT. IT IS ABSOLUTELY IMPERATIVE IN ACCORDANCE W/ TLMP THAT THE USFS FORMULATE A MEANINGFUL HABITAT RETENTION SCHEME BEFORE LAYING OUT PLAUSIBLE TIMBER UNITS.

8 THIS DRAFT PLAN FAILS TO FULFILL THE MID LEVEL PLANNING ANALYSIS AS REQUIRED BY THE 85-86 TLMP. THIS SALE IS JOST ONE IN A SERIES OF SALES, AND IS DUE THE BENEFIT OF AN ISLAND SPECIFIC ANALYSIS. IT IS CLEARLY PREMATURE TO PROMOTE THIS SALE UNTIL AN ISLAND WIDE ANALYSIS IS COMPLETED. IT IS CLEAR THAT HIGH FRAGMENTATION WILL OCCUR IN A RELATIVELY UNTOUCHED AREA. THE COMBINED IMPACTS OF THIS SALE AND ITS COMPANION SALES^{*}, WILL DESTROY THE ECOSYSTEM OF KUPREANOF. THE USFS MUST STOP PUSHING THRU INDIVIDUAL SALES AS IF THEY ARE INDEPENDANT OF A BROADER PICTURE. ALL WHEELS SHOULD GRIND TO A HALT UNTIL THIS REQUIRED MID LEVEL PLANNING ANALYSIS IS COMPLETED.

* Douglas site

* Irish sale

* Bohemia S.

9 THE 31 MILES OF ROAD IN THIS SALE ARE IRRESPONSIBLE AND A FINANCIAL BURDEN TO THE FUTURE. EVERY MILE OF ROAD WILL NEED CONSTANT MAINTANANCE TO ATTEMPT TO AVERT THE DISASTER THAT BEFELL P.O.W.^{ES} THIS OCTOBER. KUPREANOF WILL NOT RECEIVE PRIORITY MAINTANANCE FUNDING WHEN THERE

(4)

9 ARE ROADS ON MITKOF AND BY POPULATION
 CONT. CENTERS ARE IN NEED OF ATTENTION. NEGLECTED
 ROADS POSE A MAJOR THREAT TO FISHERIES
 10 RESOURCES BY WAY OF SLIDING AND SLOUGHING
 INTO WATERSHEDS. ROADS ON KUPREANOF WILL
 ALSO DISSECT A NATURALLY FRAGMENTED HABITAT.
 11 THIS WILL BE BAD FOR WILDLIFE, PLUS INCREASE
 HUNTING PRESSURE BY INTRODUCTION OF THE ROAD
 HUNTER. NO MORE ROADS SHOULD BE BUILT
ON KUPREANOF ISLAND. ROADS ON KUPREANOF
 ARE A BAD INVESTMENT FOR THE FUTURE OF
 THE ISLAND AND A LIABILITY TO FISH AND
 WILDLIFE RESOURCES.

12 ON PAGE 2-20 THE DEIS STATES
 THERE ARE 393 ACRES TO BE HARVESTED WITH
 HIGH POTENTIAL FOR MASS MOVEMENT. THIS IS
 UNACCEPTABLE. NO ACRES WITH HIGH POTENTIAL
 FOR MASS MOVEMENT SHOULD BE CUT. LOOK AND
 LEARN FROM THE MASSIVE LANDSLIDES ON P.O.W. Island
 IN OCT. 1993. THIS IS IRRESPONSIBLE FORESTRY.

13 WHY WEREN'T SUBSISTANCE HEARINGS SCHEDULED
 FOR POINT BAKER AND PORT PROTECTION? KUPREANOF ISLAND
 HAS ALWAYS BEEN A TRADITIONAL SUBSISTANCE AREA
 14 FOR THESE TWO VILLAGES. HEARINGS SHOULD BE
 HELD BEFORE THE DRAFT OF A TIMBER PLAN
 IS FORMULATED, SO THAT THE CONTENT OF THE
 HEARINGS IS USED TO CREATE WORKABLE ALTERNATIVES
 15 THERE SHOULD BE SET SUBSISTANCE RETENTION
 AREAS THAT ARE PERMANENTLY REMOVED FROM THE
 TIMBER BASE. SUBSISTANCE, MUCH LIKE WILDLIFE,
 CAN NOT BE MITIGATED FOR, IT IS TRULY
 IRONIC THE THE FOREST SERVICE SCHEDULED

(5)

A MASSIVE TIMBER CUTTING PLAN ON KUPREANOF JUST WHEN DEER POPULATIONS HAVE REBOUNDED TO HUNTABLE NUMBERS. AFTER A 17 YEAR CLOSURE, THE F.S. SHOULD HAVE GOTTEN THE PICTURE, THAT THE BALANCE OF NATURE ON KUPREANOF IS: IS VERY DELICATE. THE MASSIVE SCALE OF CUTTING PLANNED IN THE SHAMROCK SALE, THE BOHEMIA SALE, THE IRISH SALE & THE DOUGLAS SALE WILL CAUSE THE ECOLOGICAL COLLAPSE OF THIS ISLAND. THERE WILL NOT BE HUNTABLE POPULATIONS OF DEER OR MOOSE LEFT ONCE THE PRIME OLD GROWTH HABITAT IS GONE AND THE SECOND GROWTH CANOPY CLOSES.

IT IS INCONCEIVABLE THAT THIS 'INDEPENDANT' SALE BE OFFERED TO LPK OR ANY OF ITS SUBSIDIARY COMPANIES. LPK IS SINGLE HANDEDLY RESPONSIBLE FOR THE LOSS OF COUNTLESS SUBSISTANCE USE AREAS IN SOUTHERN HALF OF THE TONGASS. THE VILLAGES OF PT. BAKER AND PORT PROTECTION SUFFERED THE LOSS OF HUNTING GROUNDS ON THE MAJOR PART OF N. POW IS. AS A DIRECT RESULT OF LPK AND THE FS. THIS COMPANY HAS LAID TO WASTE TOO MANY WATERSHEDS UNDER THE GUISE OF THEIR PREFERENTIAL 50YR. CONTRACT. KUPREANOF IS NOT IN LPK'S CONTRACT AREA NOR IS IT ONE OF THEIR CONTINGENCY AREAS. THEY ARE NOT AN INDEPENDANT OPERATOR. IF THE FOREST SERVICE CAN NOT FULFILL LPK'S CONTRACT VOLUME FROM LPK'S CONTRACT AREA, THEN IT IS TIME TO TAKE THE HINT, AND GET RID OF THAT STINKING CONTRACT. THE FOREST SERVICE SHOULD REFRAIN

⑥

18
CONT.

FROM DEVELOPING INDEPENDANT SALES OF THIS MAGNITUDE. IT IS CLEAR THAT IT IS NOT BENEFICIAL TO THE SMALL CONTRACTORS, WHOM ARE FEW, BUT IS A REAL EXTRA PERK FOR LPK. IT IS TIME FOR LPK'S PURCHASER ROAD CREDIT - BELOW COST TIMBER SCAM TO BE EXPOSED AND STOPPED.

19

IT APPEARS THAT THE PROPORTIONALITY ANALYSIS ON PAGES 4-36 & 4-37 IS INCORRECT. IT HAS WRONGLY OVERCALCULATED THE TIMBER BASE, ALSO INCORRECTLY CALCULATED, ARE THE PROPORTIONS OF VOLUME CLASSES 6 AND 7 BEFORE AND AFTER CUTTING. THE SHAMROCK SALE IS ONLY ONE PART OF AN AREA. THE AREA SHOULD BE ANALYSED AS A WHOLE, INSTEAD OF THE PHONEY 'PIE SLICE' APPROACH THIS DRAFT ATTEMPTS TO MAKE. IF THIS SALE GETS PURCHASED BY BY ONE OF THE LONG TERM CONTRACT HOLDERS, IT IS IMPARATIVE THAT THIS ANALYSIS BE CORRECTED.

20

GLARING IN OMMISSION ARE THE EFFECTS OF THIS SALE ON WATER FOWL POPULATIONS. KUPREANOF ISLAND IS ON THE WATERFOWL FLYWAY. DUKHAN CANAL AND ROCKY PASS ARE HUNTED EXTENSIVELY FOR WATERFOWL. EVERY YEAR THOUSANDS OF DUCKS AND GEESE USE THIS AREA, YET NO CONSIDERATION WAS GIVEN TO THE RESPECTIVE INLAND HABITATS THAT WILL BE DESTROYED BY THIS SALE AND THE COMBINED EFFECTS OF THE IRISH, BOHEMIA & DOUGLAS. THE INLAND LAKE NO DOUBT ARE NESTING AND MOLTING HABITAT FOR MANY SPECIES. A FULL STUDY AND SURVEY SHOULD BE DONE

(7)

20 CONT. BY QUALIFIED BIOLOGISTS TO DETERMINE THE
IMPACTS BEFORE THEY OCCUR.

CLASS III TRIBUTARIES NEED TO BE TREATED
WITH MORE RESPECT THAN THIS SALE GIVES.

21 THESE ARE THE FEEDER STREAMS FOR THE FISH
PRODUCING WATERSHEDS. LOGGING IN THESE TRIBUTARIES
CAUSES EXCESSIVE DOWNSTREAM SILTATION AND

TEMPERATURE FLUCTUATIONS. AFTER THE FISH DIE
OFFS, CAUSED BY WARM WATER OXYGEN SUFFICATION
AND INSUFFICIENT WATER THIS SUMMER, IT SHOULD
BE OBVIOUS THAT ALL TRIBUTARIES NEED PROTECTION.

22 UNITS 3, 6, 13, 45, 81, 25, 40, 51 & 51M ARE
POTENTIALLY THREATENING TO DOWNSTREAM HABITAT
QUALITY. PACFISH REGULATIONS SHOULD BE

23 ADOPTED FOR KUPREANOF ISLAND. PACFISH WOULD
BE PARTICULARLY BENEFICIAL IN THE STIKINE AREA
GIVEN THE POOR TRACK RECORD FOR MONITORING
BMP'S IN THIS DISTRICT. IT ONLY MAKES SENSE
TO MITIGATE BEFORE THE TREES ARE CUT. WATER-

24 SHED ANALYSIS ON A INDIVIDUAL BASIS IS
ABSOLUTELY CRITICAL TO THE SURVIVAL OF FISHERIES
RESOURCES. AN AREA OF PARTICULAR CONCERN

25 IS PROPOSED LOGGING ON TRIBUTARIES TO
STEELHEAD AND CUTHROAT HABITAT, ESPECIALLY
CASTLE RIVER. WITH CASTLE RIVER'S RECORD
OF PREVIOUSLY DOCUMENTED FISH KILLS, DUE TO
WARM WATER, IT WOULD BE STUPID TO ALLOW
ANY LOGGING IN THE TRIBUTARIES.

IN CONCLUSION, THIS SALE SHOULD NOT
BE ALLOWED TO HAPPEN UNTIL A MID LEVEL ANALYSIS
IS DONE, RETENTION AREAS ARE DEFINED, SUBSTANCE
HEARINGS ARE DONE IN ALL AFFECTED VILLAGES

(4)

26 AND THE FULL IMPACT OF THE FOUR
SALES ARE ADDRESSED IN AN INDEPTH
ISLAND WIDE STUDY. THE BASIS FOR THIS
SALE DOCUMENT IS FLAWED. IT IS
NOT A SINGLE ACTION WHOSE IMPACTS WILL
BE FELT IN A SMALL ISOLATED AREA.
IT IS A VERY DECISIVE TURNING POINT
IN THE ECOSYSTEM OF KUPREANOF ISLAND.
THIS SALE COMBINED WITH BOHEMIA, IRISH,
AND DOUGLAS WILL KILL KUPREANOF ISLAND.
IT WILL FRAGMENT HABITAT TO THE POINT
WHERE IT IS NO LONGER ABLE TO FULFILL
SUBSISTANCE NEEDS. IT WILL NO LONGER SUSTAIN
THE WAY OF LIFE THAT PEOPLE DEPEND
ON IN THIS CORNER OF THE TONGASS.

SINCERELY,

Joan Kautzer
CHAIRPERSON OF ALASKA WOMEN IN TREES

Joseph Sebastian

JOSEPH SEBASTIAN
FOREST DWELLERS

Alaska Women in Trees, Society of American Forest Dwellers (#14)

- Comment 14-1** (This sale)...is a continuation of mass desecration timber extraction policies that are antiquated and need to be replaced.
- Response 14-1** Comment acknowledged.
-
- Comment 14-2** This sale does not fulfill TLMP requirements because it fails to identify wildlife retention areas. (paraphrased)
- Response 14-2** Areas to be managed as old-growth habitat throughout the life of the Shamrock project are described in the FEIS.
-
- Comment 14-3** The habitat of Kupreanof is so fragmented in its natural state that extra special care should be given to protect key areas and watershed corridors.
- Response 14-3** We agree that old-growth forest on Kupreanof Island is naturally fragmented, due primarily to the extensive amount of muskeg. The degree of species diversity on the island is likely linked to the natural pattern of forest and non-forest, however the relationship between species diversity and the proportion of forest/non-forest habitat is not well understood in Southeast Alaska. Even with the proposed Shamrock harvest, there remain substantial areas of unharvested forest. Key areas and watershed corridors that are protected by the TTRA and the Revised Forest Plan include Class I and II stream buffers, Wild and Scenic River corridors, beach fringe, and estuary fringe.
-
- Comment 14-4a** The seeming 'substandard' deer habitat on Kupreanof Island is the very best in the island ecosystem and should be recognized for its heightened sensitivity, not logged in spite of it.
- Response 14-4a** See responses to Comments 9-13b and 9-32.
-
- Comment 14-4b** The habitat quality terminology is totally bogus and irrelevant.
- Response 14-4b** The terminology has been changed. See response to Comment 9-13a.
-
- Comment 14-5** Unit descriptions are devoid of field observations.
- Response 14-5** See response to comments 9-1 and 9-41.
-
- Comment 14-6** The maps also are devoid of information.
- Response 14-6** We feel the maps accurately display important information that is specific to their intended topics.
-

Comment 14-7

This draft was designed to eliminate the public from making informed choices.

Response 14-7

The DEIS in no way intended to eliminate the public from making informed choices. While we have tried to be as thorough and accurate as reasonably possible in analyzing the Shamrock timber sale(s), one of the purposes of distributing the DEIS is to elicit comment and review to correct any deficiencies in the FEIS. Your comments are a part of that process.

Comment 14-8

The draft plan fails to fulfill the mid level planning analysis as required by the 1985-1986 TLMP... It is clearly premature to promote this sale until an island wide analysis is completed... The Forest Service must stop pushing through individual sales as if they are independent of a broader picture.

Response 14-8

See response to comment 1-1.

Comment 14-9

The 31 miles of road in this sale are irresponsible and a financial burden to the future. Every mile of road will need constant maintenance to attempt to avert the disaster that befell P.O.W. Island this October... Neglected roads pose a major threat to fisheries resources...

Response 14-9

See response to comment #9-51.

Comment 14-10

Roads on Kupreanof will also dissect a naturally fragmented habitat.

Response 14-10

Cleared road corridors are expected to be approximately 66 feet for specified roads and somewhat narrower for temporary roads. While these corridors may affect the movement of some small animals, they do not result in the breaking up of major blocks of old-growth on a landscape scale, which is how forest fragmentation is typically described (e.g., Franklin and Forman, 1987; Harris 1984).

Comment 14-11

(Roads)...will increase hunting pressure by introduction of the road hunter...and are a liability to fish and wildlife resources.

Response 14-11

We agree that roads will increase hunting pressure (see revised Subsistence section in Chapter 4 of the Shamrock FEIS). Roads are planned and constructed to minimize impacts on fish and wildlife resources, particularly through the use of Best Management Practices (BMPs). Also see response to 11-2.

Comment 14-12

No acres with high potential for mass movement should be cut.

Response 14-12

Areas mapped in the GIS database as having a high probability of mass movement (Class III) are considered tentatively suitable for timber production if appropriate logging systems are used during harvest (e.g., partial or full suspension). In planning the Shamrock harvest, all harvest units were evaluated for risk of mass movement and sediment delivery to streams. In areas where there were concerns about soil hazards, boundaries were adjusted to exclude areas prone to mass wasting or mitigation measures were applied that would minimize risk of sediment delivery to stream systems.

Comment 14-13	Why weren't subsistence hearings scheduled for Point Baker and Point Protection?
Response 14-13	See the response to comment 16-35.
Comment 14-14	(Subsistence) hearings should be held before (the DEIS) is formulated, so that the content of the hearings is used to create workable alternatives.
Response 14-14	Subsistence evaluations and findings are based on analysis conducted as part of the DEIS. Those findings then determine whether or not subsistence hearings are necessary. If impacts to subsistence resources are expected to be minimal, then hearings are not necessary. Thus the decision on whether to hold hearings can not be made until the DEIS is near completion. This does not mean that impacts to subsistence resources are ignored in selecting the EIS alternatives (Refer to Chapter 2 on Alternatives). Nor does it mean that information gathered during subsistence meetings does not have an effect on the EIS analysis. The findings for the Shamrock FEIS differ from those in the DEIS in part because of comments made in subsistence testimony.
Comment 14-15	There should be set subsistence retention areas that are permanently removed from the timber base.
Response 14-15	Areas to be managed as old-growth habitat throughout the life of the Shamrock project are described in the FEIS.
Comment 14-16	There will not be huntable populations of deer or moose left once the prime old growth habitat is gone and the second growth canopy closes.
Response 14-16	Not all of the forest canopy will close at the same time. The Multiple-Use Sustained Yield Act has directed the Forest Service to harvest timber in an appropriate rotation cycle. That cycle, if properly applied, assures that even-aged stands of several ages will be available for deer and moose browse in decades to come.
Comment 14-17	It is inconceivable that this independent sale be offered to LPK or any of its subsidiary companies.
Response 14-17	The Shamrock sale(s) is currently planned for the independent offerings. It is possible that a long-term contract holder could purchase the sale(s).
Comment 14-18	The Forest Service should refrain from developing independent sales of this magnitude. It is clear that they are not beneficial to the small contractors, whom are few...
Response 14-18	Depending on what level of volume is in the final ROD, the Forest Service has the option to group harvest units and roads into small sale offerings that could be more beneficial to small contractors.

Comment 14-19	It appears that the proportionality analysis on pages 4-36 and 4-37 is incorrect. It has wrongly over-calculated the timber base... If this sale gets purchased by one of the long-term contract holders, it is imperative that this analysis be corrected.
Response 14-19	The analysis of old-growth harvest by volume class on pp. 4-36 and 4-37 of the DEIS was not intended to be a formal proportionality analysis, as defined by TTRA. Since several commentors found this to be misleading, it has been deleted in the FEIS.
Comment 14-20	Glaring in omission are the effects of this sale on waterfowl populations.
Response 14-20	As stated in the DEIS, waterfowl are not expected to be significantly affected by harvest activities.
Comment 14-21	Class III tributaries need to be treated with more respect than this sale gives... Logging in these tributaries causes excessive downstream siltation and temperature fluctuations.
Response 14-21	See responses to comments 4-1 and 11-2.
Comment 14-22	Units 3, 6, 13, 45, 81, 25, 40, 51, and 51M are potentially threatening to downstream habitat quality.
Response 14-22	See response to comment 9-44.
Comment 14-23	PACFISH regulations should be adopted for Kupreanof Island.
Response 14-23	<p>PACFISH is an agreement between the USFS and the Bureau of Land Management to develop a common strategy for management of Pacific salmon and steelhead habitats on lands these agencies administer in the West. PACFISH is not a set of regulations but a commitment to work together to preserve at risk stocks of salmon and steelhead.</p> <p>The management "strategy" to achieve this goal has not yet been developed. Currently, the Forest Ecosystem Management Action Team (FEMAT), an offshoot of President Clinton's Timber Summit, is evaluating different management approaches. An important limitation of FEMAT's work is that they are focusing their efforts on forested lands within the range of the northern spotted owl, which does not occur within the Shamrock analysis area. When FEMAT completes its work, Region 10 of the Forest Service will review any management recommendations and evaluate their relevance to the Tongass National Forest.</p>
Comment 14-24	Watershed analysis on an individual basis is absolutely critical to the survival of fisheries resources.
Response 14-24	A description of both the existing environment and likely impacts of each alternative on watersheds is contained within the DEIS. The analysis used to develop these portions of the DEIS considered individual watersheds.

Comment 14-25

An area of particular concern is proposed logging on tributaries to steelhead and cutthroat habitat, especially Castle River.

Response 14-25

See response to comment 3-1.

Comment 14-26

The basis for this sale document is flawed. It is not a single action whose impacts will be felt in a small isolated area. It is a very decisive turning point in the ecosystem of Kupreanof Island. This sale combined with Bohemia, Irish, and Douglas will kill Kupreanof Island.

Response 14-26

Timber sales are planned separately in order to prepare sales that are of a reasonable size to be purchased by independent contractors. We agree that the effects of these sales are not isolated impacts and need to be considered on a cumulative basis for Kupreanof Island as a whole. The cumulative effects analysis in the EIS for each resource area is intended to examine the combined effects of the Shamrock Timber Sale and all present, past, and future timber harvest activities on the island. The Douglas Timber Sale and North Irish Timber Sale Reoffer are no longer being planned by the Forest Service.

Since the areas where timber sales are taking place or proposed are generally LUD IV, it is realized that an emphasis on timber production will result in conflicts with other resource uses and values. The designation of these areas as LUD IV was a Forest-level action as part of TLMP.

LETTER #15

RECEIVED

11/21/93. NOV 29 1993

Mr. Ron Brockelman.

EA Engineering Science & Technology
Northwest Operations

1 I would like to oppose the Shamrock
Timber sale. First of All I can't sign
off on timber sale that loses this
amount of money. We as tax payers will
lose millions of dollars, not to mention the
wildlife and fish.

2 By pushing roads into an area like this
will allow guides and hunters new opportunities
to hunt areas not before practicable. The link
to the ferry system of Kake will make
this area over harvested just as Hoonah was
ruined for hunting.

3 I would like to see area analysis done
of this area that includes the public. Plus
4 I'd like the Forest Service to specifically identify
wildlife retention areas as required by TLMP.

5 I am a heavy user of Kupreanof for fish
and game. I've spent many days hunting and
fishing the Duncan canal river systems, ~~I would~~ As
well as Rocky Pass. To log any of the tributaries
to Castle River would be a real crime. The system
is pressured now by increase use and some
declining stocks of steelhead, logging won't help.

In short, This sale is not worth the price
we have to pay. Lose 5 million buck, threaten
wildlife & fish. — Get a grip you guys.

Thanks

Mike Pilling

BX 605

Petersburg AK 99833

Mike Pilling (#15)

- Comment 15-1** ...I can't sign off on a timber sale that loses this amount of money. We as taxpayers will lose millions of dollars...
- Response 15-1** Please see response to comment 11-1.
-
- Comment 15-2** Pushing roads that are connected to the ferry system into this area will make this area over-harvested, as Hoonah was. (paraphrased)
- Response 15-2** The planning team agrees that increased competition for deer will be an effect of the proposed road system. Refer to the revised Subsistence section in Chapter 4 of the Shamrock FEIS.
-
- Comment 15-3** I would like to see an area analysis done of this area...
- Response 15-3** See response to comment 1-1.
-
- Comment 15-4** I would like to see the Forest Service to specifically identify wildlife retention areas as required by TLMP.
- Response 15-4** Areas to be managed as old-growth habitat throughout the life of the Shamrock project are described in the FEIS.
-
- Comment 15-5** To log any of the tributaries of the Castle River would be a real crime. The system is pressured now by increased use and some declining stocks of steelhead. Logging won't help.
- Response 15-5** See response to comment 3-1.
-

LETTER #16

NARROWS CONSERVATION COALITION

P.O. Box 2130, Petersburg, Ak. 99833

October 18, 1993

Ron Bockelman
EA Engineering, Science, & Technology
8520 154th Avenue N.E.
Redmond, Wa. 98052

RECEIVED

NOV 29 1993

re: Shamrock DEIS Comments

EA Engineering Science & Technology
Northwest Operations

Dear Ron:

Following are Narrows Conservation Coalition Comments on the Shamrock Draft Environmental Impact Statement (DEIS). We request that these and all public comments be printed in the Final EIS (FEIS) and that each and every concern expressed and question asked in those letters be specifically and individually responded to in the document, in a section set aside for that purpose.

We also request that the comment period for the the FEIS not coincide with the height of the fishing and work season in Southeast Alaska (June through September) and that if the document is released during this time that the comment period extend well after the end of Southeast Alaska residents' work season. We understand that you have predetermined timber targets to meet, however public comment should not be compromised in your efforts to meet those targets.

General Comments:

1 | NCC has several concerns with the DEIS, the root cause of which is an extreme pro timber bias that results in management of the Tongass by timber target. Through the Tongass Timber Reform Act (TTRA), Congress directed the agency to end timber dominance and to provide for the multiple use and sustained yield of ALL renewable resources. Instead we find fixed timber targets embedded in the Purpose and Need statement is given primacy of all other resource, planning, and legal considerations. As the DEIS indicates: "one can assume that if a certain volume is not obtained from the Shamrock Area, it will be obtained elsewhere." (DEIS 4-89).

2 | Particularly troublesome are statements contained in the FEIS that "with the current and proposed management direction, successive timber harvesting over the next 30 to 50 years, 100% of all suitable forest land in the area may be harvested [emphasis added] (DEIS 4-14); the area may be close to the threshold for a sharp decrease in species diversity (DEIS 4-41); and it is not known how species diversity would respond to further fragmentation caused by harvesting." (DEIS 4-41).

3
CONT. | Before the planning process proceeds one step further, investigations should be launched into these critically important concerns. If these statements are correct and plans to cut this timber are implemented, the harvest will not be legally sustainable, resulting in violations of federal law, and severe negative economic and social impacts. The primary requirement of the Tongass Timber Reform Act (TTRA) is that the Forest Service seek to provide a volume of timber sufficient to meet market demand only after assuring that meeting such volume levels would be consistent with providing for the multiple use and sustained yield of all renewable forest resources.

4 | In addition, the DEIS failed to disclose all impacts from a series of planned timber sales on Kupreanof Island. These timber sales are currently in the planning process and the Forest Service has a responsibility to disclose impacts from "all reasonably foreseeable" actions. The DEIS erroneously indicates that "aggregate effects of the North Irish and Shamrock sales has been considered within the ongoing *Environmental Assessment* (emphasis added) for the North Irish Timber Sale." (DEIS 4-25). These two sales are inextricably connected and impacts arising from them should have been included together in an Environmental Impact Statement for both timber sales.

Need For an "Area Analysis":

The very first page of your document indicates that "for the analysis conducted for this EIS, consideration has been given to the current [emphasis added] and future Forest Plan so that decisions will be ultimately consistent with both the present guidelines and anticipated management direction." The 1985-86 TLMP Amendment sets forth a well defined mid-level planning process, the Area Analysis process, which is intended to provide planners with the critical data and analysis necessary for linking the programmatic planning direction in the 1979 TLMP with on-the-ground project planning. In conducting this mid-level planning analysis, the 1985-86 TLMP Amendment (p.199) directs the Forest Supervisor to "follow the NEPA process, provide opportunity for public comment, and conform to Regional and National Forest Service direction."

Apparently, the agency chose to gamble that the proposed TLMP revision would be approved before completion of the Shamrock planning process. Although the Forest Service has issued two "draft" TLMP revisions, it has never formally amended the 1985-86 TLMP requirement that an Area Analysis process be completed prior to implementing any short term timber sale projects on the Tongass. The Amendment is therefore the only valid management direction currently existing for the Tongass. The agency decision to ignore governing forest management direction harms the public because, by ignoring the mid-level planning step, the Forest Service failed to consider how "other resource management needs influence alternative total timber sale layouts..." TLMP Amendment at p. 209.

5 | At this time, four timber sale offerings on Kupreanof Island are under preparation: the Douglas, North Irish, South Lindenberg, and Bohemia projects. Besides the

5
CONT.

requirement that the Forest Service conduct this essential mid-level planning process, prior to these site specific projects, review of the DEIS repeatedly indicates the need for a "larger scale" analysis of Kupreanof Island to assess cumulative impacts from the numerous past, present, and future timber sales. For instance:

1. "A landscape scale plan for biodiversity on Kupreanof Island... is important to preserve the option of having an HCA that would include much of the Shamrock area." (DEIS 4-43).
2. "Mitigative measures for biodiversity in the Shamrock area must be implemented within the context of long term harvesting over the *entire island*." [emphasis added] (DEIS 4-41).
3. "Effects of this sale would be representative of the many smaller scale actions that would contribute to landscape level effects" and "cumulative effects should be examined on the scale of Kupreanof Island as a whole." (DEIS 4-39).
4. "The cumulative effects of public access are best addressed on a larger unit of scale, such as groups of watersheds."
5. "Impacts to biodiversity are best addressed in the context of cumulative effects on an island wide basis." (DEIS, summary iii).

According to Petersburg Ranger District personnel, an Area Analysis was initiated on Mitkof Island some years ago but never completed. The District now has an employee who is well qualified to work with the Geographic Information System eliminating a major obstacle to development of this Analysis. Since the development of this analysis has already been initiated on Mitkof, it was explained that the Stikine Area would complete that analysis prior to initiating one on Kupreanof Island, simultaneous to other timber sale planning processes, and that neither analysis would issue a decision.

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CONT.

While we applaud the F.S. for taking steps to complete an area analysis on Mitkof Island, the FS **must** include Kupreanof Island in an area analysis and issue a decision consistent with existing TLMP direction **prior** to site specific EIS's. According to current TLMP direction "The Forest Supervisor's decision completes the Area Analysis process for short-term timber sales." (TLMP, Amended 1985-86, p. 210). It simply does not make sense to delay the Kupreanof analysis, especially considering the immediate level of proposed harvest. It is particularly urgent since the area "may be close to the threshold for a sharp reduction in species diversity."

NEPA Requirements To Consider This Proposed Action and the Proposed North Irish Timber Sale in the Same EIS:

The CEQ regulations require that proposals, or parts of a proposal which are related to each other closely enough to be, in effect, a "single course of action," must be evaluated in a single EIS. [40 CFR 1502.4(a)]. The CEQ regulations also define the appropriate scope of actions which should be covered in an EIS. To determine the proper scope of an EIS, the agency must consider "connected actions," which means actions that are closely related and should therefore be discussed in the same EIS.

Under 40 CFR 1508.25 (a)(1)(iii) actions are connected if they "[a]re interdependent parts of a larger action and depend on the larger action for their justification."

6

As noted in the North Irish EA (at p.1), one of the primary "purposes and needs, for this project is to provide access for future management activities by developing the road system from Kake," and indicates two alternatives (3 & 4) that propose constructing a road which will "serve as the planned mainline access to the southern portions of Kupreanof Island and the proposed Shamrock and Douglas Timber Sales." The need for the North Irish project is further confirmed in the Shamrock DEIS. Under "Proposed Action" (at 1-1) "timber would be transported to salt water over the Little Hamilton log transfer facility (LTF)." Elsewhere, the Shamrock DEIS indicates, "The road system on the North Irish Creek Sale area will be required to assess the Shamrock area. If this timber is not sold, it may be reoffered with the Shamrock volume." (DEIS 1-7).

Although the North Irish alternatives would build different road segments, neither road would be built unless it would link the mainline road, because such a road has limited utility other than serving to link Kake to the Shamrock and Douglas project areas.

6
CONT.

The inextricable connection between the road proposed in the North Irish Creek project and the Shamrock project is confirmed in the DEIS. At page 3-1, the Draft EIS states that road 6314 is planned as the "major transportation link between the village of Kake and the southern end of Kupreanof Island. The proposed road will bisect the Shamrock area and provide access for potential timber harvest." The DEIS elsewhere claims that "Alt. 5 (the preferred alternative) would construct Road 6314, 1.5 miles short of a *potential link (emphasis added)* to a road system that connects with the southern portion of Kupreanof Island." (DEIS 2-19). The implication that this road link is "potential" is erroneous if the Shamrock timber sale is to proceed.

From maps issued with the DEIS, it is also apparent that the Forest Service would be unable to utilize the Hamilton Bay log transfer facility (LTF) in connection with the Shamrock sale unless the road connection approved is constructed. Although an LTF will be proposed for the Douglas timber sale project at the southern end of Kupreanof Island, (Douglas Bay), until that project undergoes NEPA review, the only reasonable alternative for transporting timber out of the Shamrock project area is the Hamilton Bay LTF. Unless the road proposed for the North Irish Reoffer is built, however, access to the Hamilton Bay LTF can not be provided.

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CONT.

NCC therefore, concludes that the road construction approved in the North Irish Decision Notice, and the proposed Shamrock timber sale, are inextricably intertwined. They therefore satisfy the definition of "connected actions" within the meaning of the CEQ regulations and an EIS must be prepared which evaluates the environmental impacts of both the North Irish Creek Reoffer and the Shamrock timber sale.

Agency Response to Public Comments:

Many of the attendees at recent subsistence hearings for this timber sale expressed

7 | subsistence, as well as non-subsistence concerns. For some potentially interested publics, this may be the only time they are able to comment. Council on Environmental Quality Regulations (CEQ) require that an agency preparing a FEIS "shall assess and consider comments both individually and collectively," and that the agency meaningfully respond. These regulations further require that "all substantive comments received on the draft statement (or summaries thereof where the response has been exceptionally voluminous) should be attached to the final statement whether or not the comment is thought to merit individual discussion by the agency in the text of the statement." 40 C.F.R. Sec. 1503.4 (a) and (b). We request that transcripts of all subsistence testimony be included in the FEIS and that testimony be responded to in a manner consistent with other comments.

NCC has reviewed testimony for the subsistence hearings in Petersburg. Testimony for Kake was unavailable at the time of this writing. Some of the issues that were addressed in public testimony that have subsistence as well as non-subsistence implications include, but are not limited to:

1. Road connection (south and north end of island) / increased access,
2. Wolf predation and the "cafeteria effect",
3. Disturbance of waterfowl resting areas,
4. Access for big game guiding / effects on bear populations,
5. "Piecemealing" of timber sales / need for mid-level analysis,
6. Sustainability of timber resource,
7. Potential effects on future deer/moose seasons,
8. Cumulative effects of other timber sales- including native and all past, present, and future,
9. Fragmentation of old growth blocks/location of units on north aspects,
10. Economics and deficit timber sales,
11. Assessing real potential for roaded recreation,
12. Deer Habitat Capability Model applicability,
13. Adequacy of subsistence determination/ population increases not accounted for,
14. Units over 100 acres/ implications for wildlife,
15. Designation of retention areas,
16. Long term contract holders on Kupreanof Island,
17. Long and short term effects on moose populations,
18. Effects on sensitive anadromous species. ie. steelhead, cutthroat, coho,
19. Effect of hunting/ poaching by logging and agency personnel.

Portion of Study Area Included in TTRA:

8 | Although NCC reminded you during the scoping stage for this project that a portion of the study area was overwhelmingly endorsed in the U.S. House passed version of the Tongass Timber Reform Act (TTRA) there was no acknowledgement of this fact in the DEIS. This significant action should not be ignored. The issues that caused the U.S. House to support this area for inclusion in TTRA have not changed. Our members still believe this locality to be unsuitable for timber harvest.

8
CONT.

An overwhelming majority of the U.S. House agreed with with Southeast Alaskans that the best use of the west side of Duncan Canal and the Castle River watershed is for resources other than timber production. All public testimony submitted to the Forest Service and Congress should be incorporated into the analysis for this timber sale. In addition, NCC and our parent organization, the Southeast Alaska Conservation Council (SEACC) submitted comments for the TLMP Revision concerning this area. We incorporate here, by reference, those comments and request that they be specifically addressed in the FEIS.

Market Demand:

9

The DEIS indicated that Ketchikan Pulp Corporation (KPC) is interested harvesting timber on Kupreanof Island. Although timber sales on Kupreanof Island were initially intended for small, independent timber operators, we fear that KPC will individually bid on and combine the Shamrock, North Irish, Douglas, and perhaps other sales on Kupreanof. KPC has been awarded four timber sales previously designated for the independent sale program: Starfish (44 mmbf), Frosty Bay, (26 mmbf), Shelter Cove I (approximately 20 mmbf), and 12 Mile (? mmbf). Together these sales represent more than 100 mmbf currently available timber.

10

What kind of demand is there when KPC is allowed to cut Tongass Timber at essentially no cost? The TTRA directed the Forest Service to revise the long-term contracts so that they would be comparable in every respect to short term sales. A 1991 review by the General Accounting Office (GAO) concluded that the Forest Service had done so in every way except with respect to purchaser road credits. See GAO, Contractual Modifications Requirements of the Tongass Timber Reform Act (1991). As O'Toole points out in the *\$64 Million Question*, the agency's refusal to follow GAO's recommendations resulted in KPC cutting "over 160 mmbf of timber worth, according to Forest Service estimates, \$16 million. Yet KPC paid less than 1 percent of that amount in cash--just \$121,719, or 76 cents per thousand board feet. Meanwhile it received refund checks of nearly \$9.4 million." The Forest Service is not running a "market" for Tongass timber; it seems to be holding a "Going Out of Business Sale."

Implementation of TTRA's Buffer Requirements is Dismal and It's Monitoring of Buffer Implementation is Non-Existant:

11

The Forest Service has failed to "assure" that minimum 100 foot buffers required by TTRA are implemented correctly. As pointed out in SEACC's 1992 BMP Performance Report, no physical measurements of buffer strips are taken while monitoring. Amazingly, the DEIS contains absolutely no discussion of the impacts from blowdown on the integrity of buffers alongside salmon streams. Given the prevalence of buffer blowdown problems noted in the 1991 and 1992 Alaska Department of Environmental Conservation forest practices inspections, the absence of such a discussion fails to reasonably disclose and evaluate the probable impacts to fishery

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CONT. resources from poorly designed buffers.

12 Even more amazing is the absence of any information of Sealy Corporation's unlawful timber cutting of a unit planned for the Bohemia Mountain Sale on Kupreanof Island near Portage Bay. Not only was Sealy's arrogant action reprehensible, but this incident establishes the inability of the Forest Service to manage logging activities in a prudent and responsible manner. The fact that Sealy could operate in a unit without any supervision and oversight is atrocious. In fact, it took 3 weeks for the FS Timber Sale Administrator to recognize that the unit had been illegally cut, despite the fact that he had made an on the ground visit to the area. The DEIS suggests that this blunder may happen again.

13 In fact, the DEIS monitoring section (at 2-25) indicates that during sale preparation, "minor changes may be made to units and roads to reflect the intent of the mitigative measures presented in this EIS. This preparation step would involve a *"plan-in-hand"* (emphasis added) review of the timber sale" (with apparently no NEPA review). The DEIS goes on to try and justify the widespread practice of unit expansion at the discretion of sale administrators and contract inspectors. In regard to a 1989-94 timber sale on Prince of Wales Island, it is exactly this discretion that was abused to the point where 5,047 acres of the harvest occurred outside of the harvest areas identified in the Record of Decision! None of these acres were subject to NEPA review. The practice of unit expansion to compensate for 'falldown' between expected timber yields and what can actually be harvested is not in compliance with Forest Plan Standards and Guidelines, NEPA, ANILCA, and is a gross mismanagement of authority.

PACFISH:

Spurred by Judge Dwyer and endangered species listings in the Pacific Northwest, the Forest Service and Bureau of Land Management have developed PACFISH, a proactive stream and watershed protection strategy, for application to anadromous fisheries in the Pacific Northwest and Alaska. An interdisciplinary team of scientists designed the strategy's watershed analysis and riparian protection measures. The DEIS failed to disclose the existence of this strategy, the science behind it, or to apply that science to the Shamrock area.

14 PACFISH includes watershed analysis and protective buffers around critical riparian and watershed features. The DEIS failed to take a "hard look" at the PACFISH strategy in this planning process, the best available scientific data relating to salmon habitat protection, violates NEPA because it significantly impedes informed public participation.

The 1994 Appropriations bill does not insulate the Forest Service from disclosing and considering this information.

Declining Stocks of Steelhead:

Despite specific lengthy scoping comments submitted by NCC concerning the health of anadromous fish stocks in the Shamrock study area, the DEIS gave only cursory attention to this issue. There is absolutely no evidence in the DEIS that declining fish stocks in the study area will not be dramatically impacted as a result of timber sale activities. In fact, the evidence supports the contrary. As we indicated in our previous comments, Castle River was placed under "emergency measures" in 1993 for immediate protection of declining steelhead stocks. This stream (and possibly others) are of immediate concern due to declining abundance and overwhelming public concern.

- 15 Short term emergency measures for 1993 included no bait / catch and release fishing. Because the Forest Service is proposing two major timber sales (Douglas and Shamrock) in the watershed of Castle River in particular, Narrows Conservation Coalition feels it is important that your agency be very sensitive to the public concerns for steelhead stocks in these drainages. Although other creeks in the area were not included on the ADFG list for immediate concern, we suspect that steelhead stocks may be declining in Big John, Keku, and Tuneheah Creeks also.

The positive effect of a no bait /catch and release management strategy could quite possibly be totally negated by the effects of timber sales in these watersheds. Sediment loads into anadromous habitat following just one rainy period on deforested anadromous tributaries could wipe out the few dozen fish these emergency measures are designed to protect. Castle River, Keku, and Tunehean Creeks, and Unnamed 2 are temperature sensitive systems. Mass die-offs due to warm water have occurred in some of these systems. Any change of the habitat may irreparably harm them.

- 16 According to the DEIS (at 4-33) "mitigation measures to prevent temperature impacts to Class III streams are not proposed since harvest is not expected to adversely impact water temperatures in downstream areas. However this claim is refuted elsewhere; "depending on the amount of unbuffered Class III streams proposed, these sales *could increase water temperature in this drainage, leading to reduced growth rates or mortality in fish populations..*" (DEIS at 4-32). The DEIS (at 4-95) also points out that "Harvesting also results in increased water temperatures wherever vegetation that shades streams is removed. Because Class I and II streams would have vegetated buffers of 100 feet, stream temperature increases are generally confined to *Class III streams and areas where Class III streams flow into Class I or II streams.*" [emphasis added]" Short term use would result in sediment and temperature related impacts to streams." (DEIS 4-96).

- 17 While we recognize that placement of buffer strips, directional felling, and split yarding of timber along these tributaries is a standard management practice, sediment loads are still a documented problem in anadromous tributaries. Because effectiveness monitoring on the Stikine area is at best rudimentary, inconsistently applied, inadequately documented, and uncoordinated, the FS can offer no evidence that implementation of BMP's actually works.

The study area for the the two timber sales is noted for its highly erosive soils and windthrow potential and temperature sensitivity of streams. The bottom line is that real habitat protection must be accomplished in order to save these steelhead stocks and avoid endangered species listings. We continue to maintain that greater benefit can be gained by staying out of sensitive watersheds altogether. Regardless, the burden of proof must be on the FS to demonstrate that their activities will not harm fish stocks before any development is undertaken in sensitive watersheds. PACFISH offers the best method yet to insure that fish stocks will not be harmed.

BMP Monitoring:

17 The Forest Service has a mandatory duty under NFMA and its own planning regulations to monitor the effects of management activities. The DEIS is replete with claims that implementation of BMP's and TTRA buffer requirements will insure fish habitat and water quality protection.

We are unaware of any rigorous and systematic monitoring efforts on the Stikine Area that meet agency requirements. A comprehensive effectiveness monitoring program for water quality, which evaluates whether the BMP's are performing as intended, has yet to begin on the Stikine Area or Forestwide. Consequently, there is a notable lack of valid information supporting claims in the DEIS that BMP's are effective at assuring protection of water quality and fish habitat. Monitoring should begin simultaneous to timber harvest, not months or years afterward.

18 Complaints continue to surface about staff shortages and the lack of sufficient funding to cover a comprehensive monitoring program, both on the District and Regional levels. **Realistic** estimates should be included with each monitoring plan proposed in the DEIS (funds and personnel). Does the FS have the budget to fund this monitoring? We believe the agency can legally approve only the level of activities which it has the resources to properly monitor.

Illegally Large Clearcuts:

19 The National Forest Management Act of 1976 (NFMA) places a limit on the size of forest openings that may be created. 36 CFR 219.27 (d) (1). "This limit may be less than, but will not exceed,...100 acres for the hemlock-Sitka spruceforest type of coastal Alaska." 36 CFR 219.27 (d)(2). NFMA provides flexibility to exceed the maximum opening size under certain conditions, and requires that such exceptions be provided for in regional guides. The Alaska Regional Guide (at p. 3-20) establishes the exceptions to the 100-acre size limit applicable to coastal Alaska and lists 10 factors to be considered in determining when a larger size is permitted.

The need for oversized units identified in the DEIS relate to the need for meeting a predetermined timber target volume. We do not believe the reasons cited in the text of the document for exceeding the 100 acre rule meet the requirements for these exceptions. No credible evidence was cited that support real concern for windthrow

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CONT.

other than the standard boilerplate remarks about blowdown we see in every EIS. Evidence to support cost considerations was completely lacking, as well as information supporting the need to make "logical entries". It appears that the Forest Service is only interested in harvesting the most amount of timber and is trying to create an appearance of technical compliance with these provisions of NFMA.

Table 2-4 indicates that six units between 176 and 102 acres were created for a variety of reasons including, "to develop a cost feasible entry on this road, to avoid isolating timber, to make a feasible logging entry and for potential windthrow hazards." The unit description summary (Appendix A-1) indicates that "windthrow was a common concern in the design and location of all units, so measures to insure windfirm boundaries were not included in the unit descriptions because they were similar among units."

20

Since windfirmness was a primary reason to exceed 100 acres on some of these units we would like to know specific measures the design team took to insure windfirmness for all units. For instance, what landforms/topography affected unit design? How about prevailing winds? What other considerations were taken into account?

Unit descriptions included in Appendix A for the specific units provide the most accurate information for the rationale that clearcuts should be larger than 100 acres. Unit 13 and 31 do not indicate the design of this unit had windthrow concerns, only timber isolation concerns. According to the Unit descriptions for Unit 28 its design took into consideration only windthrow potential, and Unit 32 took into consideration windthrow and timber isolation concerns. Unit descriptions for Unit 36 and 61 only indicate the need to make a logical unit boundary and prevent isolating timber.

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The need to prevent isolating timber is only an issue if the Forest Service plans to harvest every stick of timber on a hillside, and if windthrow is a problem then why is the agency harvesting timber there in the first place? The inclusion of huge tracts of clearcuts have severe implications for wildlife, however there are absolutely no wildlife conflicts cited or mitigation (proven or otherwise) for this action, proposed in the DEIS.

22

Any proposed mitigation for wildlife should provide scientific evidence that supports that the mitigation actually works.

Subsistence:

23

We are particularly concerned that at precisely the moment subsistence hunters can once again return to their traditional hunting grounds, your agency proposes another, in a series, of huge timber sales. Had subsistence use been a consideration, timber harvest would have been deferred to other areas less important to subsistence users.

24

The Forest Service preliminary DEIS conclusion that the potential foreseeable effects of any of the action alternatives "will not be significantly restrict subsistence use of deer" (DEIS 4-62) by local residents is arbitrary because it is not rationally connected to the facts found in the EIS. Also, the preliminary conclusion that there will be no

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CONT. restriction of subsistence use of deer for this sale is inconsistent with statements made in the North Irish EA. In assessing the direct, indirect, and cumulative impacts to subsistence from the proposed North Irish Timber Sale timber sale, the North Irish EA (at p. 14) concluded that:

Enough is known about foreseeable activities on Forest Service, private lands, and other lands surrounding the project area to project that subsistence use of deer may be significantly restricted on Kupreanof Island in the future, whether or not the North Irish Creek Sale is completed. [emphasis added].

25 In addition, the Forest Service failed to consider recent changes in use patterns resulting from previously constructed roads in the area. It claims that "access to customary subsistence use areas has not been affected by past land use activities and is not expected to be significantly affected by any of the action alternatives." (DEIS 4-59).

26 In fact, one proposed timber harvest unit (Unit 55, 59 acres) is located within mapped subsistence use areas and is accessed directly by Road # 45804. Absolutely no mitigation for subsistence was proposed for clearcutting this important unit. Information included in the the Unit Description for this unit indicates cutting in "marginal" deer winter range is not mitigated since "adequate habitat exists elsewhere." We would like to know exactly where this "adequate habitat" is located for all the units that this is indicated.

27 Based on TRUCS maps, the important subsistence use areas may be located from 3 to 6 miles from the coastline. The areas of Duncan Canal, Rocky Pass, Keku Strait, Big John Bay, and the Castle River basin have historically and are presently used extensively for the harvest of subsistence resources by residents of the review communities. (DEIS 3-50). You can't convince us that opening up the entire center of the island with a road network won't significantly affect these important subsistence use areas. Bringing roads close enough to important subsistence areas dramatically increases access and competition, especially for a road system connected to the Alaska Marine Highway.

28 The DEIS erroneously claims that the "one antlered deer harvest will limit all but local, rural subsistence hunters." In fact, the deer harvest limit on the west side of Duncan Canal was two antlered deer. The DEIS (at 3-45) indicates that due to the closure of deer hunting in 1975, only historic use of deer hunting areas will be presented in this report. Information will soon become available from ADF&G on results of the island-wide deer season. Please incorporate this information into your analysis. Results of the Kupreanof 1993, 16-day, permit deer hunt on the east side of Duncan Canal indicate 40 deer were taken indicating that at least 40 people participated in the hunt.

30 The DEIS (at 4-68) claim that "avoidance of important subsistence use areas such as beach and estuary fringe and riparian areas adjacent to salmon streams," is a

- 30
CONT. | reasonable step to minimize adverse impacts upon subsistence users is ridiculous. These steps are required under agency direction and TTRA mandates. Real protection of subsistence habitat would include the designation of retention areas as required by TLMP, with enough adequate habitat to support healthy, huntable populations of deer. We have included a 1993 resolution by the Alaska Board of Game that the FS protect forests to the extent for providing for the "long term maintenance of harvestable wildlife populations." The Planning team for this timber sale should strive to do the same.
- 31 |
- 32 | Despite our scoping request that cumulative impacts be disclosed for all past, present, and future timber harvest on federal and native lands, the DEIS (at 4-66) only mentions that clearcutting on Native lands around Kake may have "the potential for long term implications for subsistence users." Repeated requests by the public have been made in this regard and the issue is repeatedly ignored by your agency.
- 33 | Deferring subsistence use impacts to an as yet unadopted TLMP Revision is unconscionable.
- 34 | The City of Kupreanof should be included in the Subsistence analysis.
- 35 | Why were no subsistence hearings held for other potentially affected communities besides Kake and Petersburg?
- 36 | Claims made in the subsistence section in the DEIS (at 4-64) that "roads in the study area currently do not exist," are refuted elsewhere; ie, The North Irish Timber Sale includes 4.4 miles of roads in the Shamrock Area." (DEIS at 4-2).

Proportionality:

- 37 | We have serious concerns about the use of questionable and non-standardized databases employed by the FS. Since the use of these databases is the basis for determining proportionality, then proportionality findings are also flawed. For instance, FS researcher J.E. Brickell concluded, regarding the accuracy of the current TIMTYPE database, that:

"Those results [of using the Tongass timber inventory] are reliable as an assessment of forest areas and volumes at the Forest and Area levels, but fall somewhat short of providing all timber resource information required for Forest And Resource Analysis Area planning. Particularly lacking is the means of relating timber estimates to specific smaller areas of land with any reasonable precision."

Brickell, Review of Forest Inventory Methodology and Results, Tongass NF at 1 (Sept. 1989)(emphasis added).

Brickell's conclusions should have come as no surprise to Tongass planners. The TLMP Amendment noted that LandType/Timber PHOTO POINTS and the VCU Matrix

37 | automated databases were not "designed for direct project level use." See TLMP
CONT. | Amendment at 201.

38 | We have indeed heard first hand horror stories about the use of the database by local
FS personnel for timber sale planning. Although the Stikine Area has found TIMCLU to
be more accurate it is not used consistently from one sale to the next. The accuracy of
TIMCLU should be verified and if it is found to be accurate, then it should be used
Forest wide in a standardized manner. Regardless, the use of the any unverifiable
data base has severe subsistence implications since it is the basis for subsistence
determinations.

Wild and Scenic Rivers:

39 | We were disappointed that the DEIS included an Alternative (#2) that bulds roads and
cuts timber in the wild and scenic river corridor of Castle River. Because the final
decision on the rivers suitability is pending, Forest Service administrative direction
requires that potential wild and scenic rivers be protected to ensure that the river's
values are not degraded before final decision is reached on its inclusion in the
national rivers system. [Planning Handbook, Chapter 8, § 8.12, 8.14.]. There were
numerous references in the DEIS that the wild and scenic eligibility classification for
Castle River may be affected by the implementation of Alternative 2. Such actions
violate the Wild and Scenic Rivers act and agency direction.

Specific management standards must be developed to ensure that the resource
values and free-flowing character of the stream, its tributaries, and adjoining lands are
not degraded, and that the current classification status of the stream is maintained.
Will this project degrade the outstandingly remarkable values of subsistence and
recreational hunting and fishing, cave, scenic, ecological, and cultural values of these
rivers? These impacts were not disclosed or considered in this FEIS.

The basic standard of review in the FEIS should be whether the project will affect
conditions of free flow and have a direct and adverse impact on the values for which
the rivers were found eligible. (See letter from former FS Associate Chief George
Leonard to Regional Foresters, October 30, 1992, page 1) This basic standard of
review was totally lacking in the FEIS.

The FS failed to consider agency requirements for visual quality in the viewsheds of the eligible river corridors

40 | FS Handbook Regulations [Chapter 8, Sections 8.2.1.a and 8.2.2.a.] require that
"timber outside the corridor for Wild and Scenic status, but within the viewshed, be
managed and harvested in a manner which provides **special emphasis** to visual
quality". (emphasis added). The appellants maintain that clearcutting does not provide
special emphasis to visual quality. In scoping comments submitted for the FEIS,
Narrows Conservation Coalition (NCC) requested that all units in the viewshed of all
eligible river corridors (Tunehean, Castle, Irish Keku Creek) be managed with this

requirement in mind and that they not be clearcut.

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CONT.

Nowhere is there evidence in the FEIS that these requirements were met or that NCC's request to maintain visual quality was even considered. Also, there is absolutely no indication in the FEIS what cutting units are visible from the viewshed of the eligible river corridors. Thus there can be no "special emphasis for visual quality," since no one knows which units are in the viewshed !

Wetlands:

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The DEIS standards and guidelines will not be sufficient to protect either forested wetlands on steep, unstable soils during logging activities as required by ~~Executive~~ Order 11990, NFMA, and the Region 10 Soil Quality Standards. For example the DEIS preferred alternative proposes harvesting on 393 acres of high soil hazard class. The analysis in the DEIS raises serious questions concerning whether proposed mitigation measures (such as partial suspension, yarding, full bench road construction, and endhauling) actually work.

NCC incorporates here, by reference, identical concerns raised recently in the appeal of the Central Prince of Wales timber sale.

Recreation and Tourism:

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We have serious concerns about future potential use of the area by recreationist and tourists. If the FS was as concerned about the potential for roaded recreation in the Shamrock area as the DEIS suggests, then cutting units would have been specifically deleted and/or modified along sensitive viewing routes of the road system. Sensitive view points would have been designated along the road system. The Unit Description found in the DEIS indicate no consideration was given to this, contrary to the text of the document. In addition, NFMA restricts the Forest Service use of clearcutting to where exceptional circumstances are satisfied--ie., only when clearcutting is insured to be consistent with the protection of the forest's natural resources including recreation and aesthetic resources. See 16 U.S. C. sec.1604 (g)(3)(F)(v).

Marbled Murrelet and Queen Charlotte Goshawk:

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The DEIS does not meet NEPA requirements to conduct a detailed and thorough assessment of the impacts of the proposed logging and road building on wildlife. In particular, the DEIS fails to completely assess impacts to two species of concern on the Tongass - the Queen Charlotte Goshawk and the Marbled Murrelet.

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DEIS acknowledges that they are present (goshawks) or likely to be present (murrelets) in the project area. For the both species, the DEIS recognizes that the species is uncommon on the Tongass and are candidate species for for threatened or endangered status. There is *minimal* analysis of impacts.

45 The DEIS (at 4-25) section which describes the impacts of the alternatives on the environment claims that "the specific loss of foraging habitat (for goshawk) within the Shamrock area is *insignificant in a real extent* if there are no additional losses of foraging habitat outside of the Shamrock area. However the Big John drainage, which contains the goshawk nest, is also a part of the North Irish sale." By whose authority is the claim that the loss of foraging area (about half of Unit 6 is 44 acres-not 25) is not significant.? Once again we recognize the need to develop an EIS that evaluates the cumulative impacts of both sales. Until this is done Unit 6 and the associated section of road should be deleted from the sale.

46 For murrelets, the DEIS (at 4-25) simply claims that the proposed harvest would at most "result in a 5.5 percent loss of old growth that could potentially decrease murrelet populations by a similar percentage in the analysis area." We wonder what the basis for these conclusions were. .

47 None of the the Forest Service proposed mitigation efforts apply to goshawk or murrelet and interim guidance for goshawk are unsubstantiated. This is an unacceptable way to prevent and avoid "significant impacts" on wildlife resources in the project area and surrounding VCU's. Mitigation measures suggested such as retaining old growth for wildlife habitat are nullified for these species due to fragmentation.

48 In addition to its minimal assessment of the potential impacts of logging activities on the habitat needs of these species, the DEIS is flawed for failure to assess site-specific impacts of this project. The U.S. Fish and Wildlife Service, among others, have specifically emphasized the need for the Forest Service to conduct surveys of the project area for these species before completion of the FEIS. Will these surveys be completed as required?

Even more disturbing is the fact that the interim guidelines for goshawk are proposed without any credible scientific information to support them. ADFG and the FWS have strongly criticized the interim guidelines for the goshawk. FWS has stated that the guidelines will not protect nesting goshawk pairs or viable populations of goshawks. Expert agencies have also told the Forest Service, unless surveys are **properly done, at the right time of year, by expert biologists**, it is very likely that most goshawk and murrelet nests will not be found.

49 Noticeably absent from your document is incorporation of the Interagency Viable Population Committee Recommendations. This wildlife conservation strategy has been reviewed and praised by Jerry Franklin (the "father" of the ecosystem approach) and Dr. Bruce Marcot, the latter in a recent official review of this strategy for Region 10. The failure to incorporate this outstanding piece of conservation work into your DEIS only further discredits this document and its so-called new perspectives principles (DEIS at summary i). VPOP was done by your own employees and you should embrace it. It's not too late to incorporate these recommendations and perhaps win approval from ADFG, FWS, and the public for management of old growth dependent

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CONT. | species such as goshawk, murrelets, deer, brown bear, mountain goat etc..

Numerous Misstatements:

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The DEIS is replete with confusing information concerning the North Irish Timber Sale Reoffer, ie. whether the North Irish sale is currently being harvested, the current existence of roads in the project area, the length of the roads, implications that the essential "road link" has been built, etc. We get the feeling that not only are the contractors and subcontractors who prepared this analysis unsure of the current state of affairs in the project area, but the Forest Service, who is responsible for supplying such relevant information and making a decision based on that information, is in the dark as well.

All misstatements contained in the DEIS must be corrected in the FEIS. The following examples are but a few of these misstatements:

-*"The main arterial road would be paved (emphasis added) and range from 15.3 miles to 8.0 miles depending on the alternative, and would provide access to the central portion of Kupreanof Island. Under any of the action alternatives, the arterial road would connect with the existing road system (emphasis added) developed for the North Irish Timber Sale which provides roaded access to the town of Kake on the Northwest corner of Kupreanof Island."* (DEIS 4 -88). Please note that the "connection" does not yet exist!

-*"Development of a paved (emphasis added) arterial through the center of the island would result in increased visitation to the central area of Kupreanof Island."* (DEIS 4-88). We agree that any kind of road will increase visitation to the area but is the FS now planning to pave all logging roads or just the ones on Kupreanof Island?

-*"Roads in the study area currently do not exist."* (DEIS 4-64).

-*"Road 6314 is currently constructed within three miles of the Shamrock Area. It is planned as the major transportation link between the villiage of Kake and the Southern end of Kupreanof Island."* (DEIS 3-1).

-*"The North Irish Timber Sale includes 4.4 miles of roads iin the Shamrock Area."* (DEIS at 4-2).

Figure 1-2, depicts road 6314 as "existing roads". (Implies that this is the road link and that no construction would be required).

-*"Alt. 5 (the preferred alternative) would construct Road 6314, 1.5 miles short of a potential link (emphasis added) to a road system that connects with the southern portion of Kupreanof Island."* (DEIS 2-19). There is nothing "potential" about this link if the Shamrock timber sale is to be a viable timber sale. since a transportation system is planned for the entire island.

-All Alternative Maps depict a road included in the North Irish Timber Sale EA as *"Roads to be constructed under previous contract."* Please note the previous contractor defaulted and therefore there are NO previous contract commitments. The maps imply that the road is already contractually committed.

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CONT. -*"Implementation of Alternatives 3 and 5 would not provide road access between the northern and southern portions of Kupreanof Island."* (DEIS 4-2). Since the DEIS acknowledges a transportation system is planned for the entire island, whether or not these alternatives are implemented, the entire portion of this island will be accessed sooner rather than later. Regardless, a road originating in Kake and terminating near Castle River can be considered to connect northern and southern Kupreanof Island.

-*"Potential cumulative effects to cultural resources as a result of timber harvest activities associated with the Shamrock EIS may occur from the southward expansion of the road network on Kupreanof Island, which would eventually allow public access to other areas outside the Shamrock area..."* (DEIS 4-73). We agree, however the DEIS refutes this eventuality elsewhere.

-*"Other timber sales on Kupreanof Island may allow the permanent road system within the Shamrock area to be connected with other systems. This could result in further increase in exploration activity and road use, especially if the road system eventually connects to Petersburg, effectively opening up a direct link between the Alaska Marine Highway and the interior of Kupreanof Island."* (DEIS 4-55). Once again, the ugly subject of "connected actions" rears its head!

-*"Traditional modes of access are not expected to change."* (DEIS 4-60). Yes they are! Roading of this area will provide access for motorized vehicles including those from the Alaska ferry system.

Results of Multi-entry logging plan (MELP) should be disclosed:

51 Was a Multi-entry logging plan (MELP) developed for this project? If so what was it based on, (aerial photos, field data, GIS analysis, etc.) and was it incorporated into this analysis? If so please disclose the results of that plan in this FEIS. Could the MELP be the source of statements disclosed in the DEIS that "with the current and proposed management direction, successive timber harvesting over the next 30 to 50 years, 100% of all suitable forest land in the area may be harvested (DEIS 4-14)? When questioned during recent subsistence hearings, the IDT team did not know the source of that statement and speculated that perhaps their "subcontractors knew."

Retention:

52 Once again the DEIS completely fails to correctly implement the requirements for identifying, designating, and maintaining wildlife retention as specified in the current TLMP, as amended 1985-86. The 1984 TLMP Evaluation Report (at A-5), recognizes that acres retained for wildlife purposes are integral parts of the TLMP. The Report

further clarifies that acres retained for wildlife purposes:

could be subject to change as a result of periodic amendments and revisions to the Plan. Until such changes are made, however, the acres retained as a result of applying the [Retention] factors can be considered as permanently retained, in the same sense that all the LUD III and IV CFL acres not retained or otherwise restricted can be considered as permanently available.

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CONT.

The TLMP Amendment also requires NEPA planning documents for each project to provide information on the location, volume class, and description of wildlife habitat values to be maintained or enhanced for each retention area. This information is not included in the DEIS and precludes the Forest Service from providing "full and fair discussion" of environmental impacts to wildlife from this timber sale as required by NEPA. See 40 CFR 1502.1.

Since retention was not designated in the DEIS, the public cannot participate in a "full and fair" discussion of concerns about which areas are selected for retention. We formally request that an amended DEIS be issued to enable subsistence users the opportunity to address these concerns.

TTRA buffers, estuary, and beach fringe, and other areas not selected for logging regardless of their value to wildlife do not meet the TLMP requirements of formally identifying retention areas.

Miscellaneous Comments:

53

-The DEIS points out that units 6, 10, 23, 35, 50, and 82 were added to this sale to "increase economic efficiency and minimize road mileage." (DEIS 4-23). What measures have been proposed to mitigate the "impacts to wildlife movements" as indicated in the DEIS (at 4-23)?

54

-Why the sudden attention to Dwarf Mistletoe in this DEIS? Are other areas on the Tongass monitored for signs of mistletoe infestation to the extent this timber sale was? We get the feeling that the FS is grasping at straws to justify clearcutting to the extent proposed in the Preferred Alternative.

-We request that the planning record indeed be ready and available for public review at anytime as indicated in the DEIS. Such preparedness will prevent problems similar to those encountered during public review of the North and East Kuiu planning record.

Thank you for this opportunity to comment on the Shamrock.

Sincerely, *Rebecca Knight*

Rebecca Knight for Narrows Conservation Coalition

ATTACHMENT 3

93-66-BOG

RESOLUTION OF THE ALASKA BOARD OF GAME

WHEREAS, the Alaska Board of Game is mandated by the Alaska Constitution to manage wildlife resources on a sustained yield basis for all of the people of Alaska; and

WHEREAS, the present forest management practice of clearcut logging in the Tongass National Forest occurs on a rotation which precludes regeneration of a forest with high volume old-growth characteristics; and

WHEREAS, research on Sitka black-tailed deer within the last two decades has indicated diverse high volume old growth stands are necessary for the continuation of viable populations; and

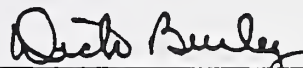
WHEREAS, Sitka black-tailed deer is the single most important wildlife species for the residents of Southeast Alaska for nonconsumptive and consumptive uses including subsistence, and

WHEREAS, forests with high volume old-growth characteristics are necessary to other wildlife species, which are also important to residents and visitors; and

WHEREAS, continued present forest practices affect the Board of Game's ability to carry out its constitutional mandate to manage wildlife on a sustained yield basis,

THEREFORE BE IT RESOLVED: by the Alaska Board of Game that the Tongass Land Management Plan be revised to protect forests with high volume old-growth characteristics to an extent providing for long-term maintenance of harvestable wildlife populations.

DATED this 19th day of March, 1993



Dick Burley, Chairman
Alaska Board of Game

VOTE: 7 Favor; 0 Oppose

[doc: 8.11Tongass]

Narrows Conservation Coalition (NCC) #16

Comment 16-1

Though the TTRA Congress directed the Forest Service to end timber dominance and to provide for the multiple use and sustained yield of all renewable resources. Instead, we find fixed timber targets embedded in the Purpose and Need statement is given primacy of all other resource, planning, and legal considerations.

Response 16-1

The purpose and need of the Shamrock timber sale is primarily to provide timber for independent contractors in the timber industry. The balancing of timber harvest with other resource uses in the Tongass National Forest is a planning level issue addressed in TLMP.

Comment 16-2

Particularly troublesome are statements...that "...over the next 30 to 50 years 100 percent of all suitable forest land in the area may be harvested."

Response 16-2

See response to comment 1-5.

Comment 16-3

(Also particularly troublesome are statements that) the area may be close to the threshold for a sharp decrease in species diversity; and it is not known how species diversity would respond to further fragmentation caused by harvesting. Before the planning process proceeds one step further, investigations should be launched into these critically important concerns.

Response 16-3

As you point out and which is also pointed out in the section on biodiversity in Chapter 4, the mosaic of old-growth forest and non-forested muskeg in the Shamrock area represents a naturally fragmented forested habitat that may be closer to a threshold for decrease in diversity of old-growth dependent species due to further fragmentation. As you also state, our understanding of species diversity in Southeast Alaska is, however, not at a point where the relationship between species diversity and the proportion of forest/non-forest habitat is known. We agree that this is an important question that deserves considerable research, and one that should be considered in any future development of Habitat Conservation Areas for Kupreanof Island.

This uncertainty notwithstanding, the degree of fragmentation resulting from harvest activities of the proposed Shamrock sale alternatives has been quantified in the biodiversity section of Chapter 4 and is shown to be relatively small. This level of fragmentation is not expected to significantly lower habitat capability for wildlife.

Comment 16-4

...the DEIS failed to disclose all impacts for a series of planned timber sale on Kupreanof Island... The DEIS erroneously indicates that "aggregate effects of the North Irish and Shamrock sales has been considered within the ongoing Environmental Assessment for the North Irish Timber Sale." (p.4-25). These two sales are inextricably connected and impacts arising from them should have been included together in an EIS for both timber sales.

Response 16-4

Although cumulative effects of the Shamrock sale in combination with other planned sales has been addressed in this EIS, a discussion of all impacts from other timber sales is outside of the scope of this project specific EIS. You are correct in pointing out that the DEIS was mistaken in stating that "the aggregate effects of the North Irish and Shamrock sales" were considered in the EA for the North Irish Reoffer. The discussion of impacts to northern goshawks nesting in or near the corrected.

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- Comment 16-5** Besides the requirement that the Forest Service conduct this essential mid-level planning process (as set forth in the 1985-1986 TLMP amendment) prior to these site specific projects, review of the DEIS repeatedly indicates the need for a "larger scale" analysis of Kupreanof Island to assess cumulative impacts from the numerous past, present, and future timber sales... The Forest Service must include Kupreanof Island in an area analysis...prior to site specific EISs.
- Response 16-5** See response to comment 1-1.
-
- Comment 16-6** NCC therefore concludes that the road construction approved in the North Irish Decision Notice and the proposed Shamrock timber sale are inextricably intertwined. They therefore satisfy the definition of "connected actions" and an EIS must be prepared which evaluates the impacts of both the North Irish Creek Reoffer and the Shamrock timber sale.
- Response 16-6** The Decision Notice for the North Irish Timber Sale Reoffer was rescinded and the sale will not take place. One unit and one road segment of the North Irish Reoffer have been incorporated into the Shamrock Timber Sale.
-
- Comment 16-7** We request that transcripts of all subsistence testimony be included in the FEIS and that the testimony be responded to in a manner consistent with other comments.
- Response 16-7** Subsistence hearings have been held in Petersburg and Kake. However, because the finding in the FEIS has been changed from the DEIS, additional hearings were held following publication of the Shamrock DEIS Supplement. The Forest Service will document the subsistence hearings in the Record of Decision, including a description of number and location of hearings, number of participants, a summary of major points raised, and a response to the major points raised. Transcripts of all subsistence hearings are available in the Shamrock planning record.
-
- Comment 16-8** Although NCC reminded you during the scoping for this project that a portion of the study area was overwhelmingly endorsed in the U.S. House passed version of the TTRA, there was no acknowledgement of this fact in the DEIS. This significant action should not be ignored... We incorporate here by reference (the SEACC comments submitted for the TLMP revision concerning this area) and request that they be specifically addressed in the FEIS.
- Response 16-8** The Forest Service is obligated to follow the direction of the TTRA as passed by Congress, and the Shamrock timber sale has included TTRA requirements in its design and analysis. The Shamrock timber sale is also consistent with both the 1985-1986 TLMP Revision and the more recent TLMP Revision (referred to as the Revised Forest Plan in the FEIS), including their respective Land Use Designations (LUD). Reevaluating LUD status of specific areas is not appropriate for a project specific analysis, such as the Shamrock FEIS.
-
- Comment 16-9** Although timber sales on Kupreanof Island were initially intended for small, independent timber operators, we fear that KPC will individually bid on and combine the Shamrock, North Irish, Douglas, and perhaps other sales on Kupreanof.

Response 16-9

Because of the closure of two SBA mills in Southeast Alaska in the last few years, the policy on timber sale bidding on Forest Service sales was changed. All SBA set-aside sales are available for all bidders to submit bids. If there are self-certifying small bidders on the offering, bids from those not self-certifying as small business will not be considered. Small business purchasers not self-certifying as small for the offering will not be bound by the 50 percent requirement but likewise their bid will not be considered if there are other small business bidders who self-certify.

Comment 16-10

What kind of demand is there when KPC is allowed to cut Tongass Timber at essentially no cost? The TTRA directed the Forest Service to revise the long-term contracts so that they would be comparable in every respect to short term sales. A 1991 review by the General Accounting Office (GAO) concluded that the Forest Service had done so in every way except with respect to purchaser road credits...the agency's refusal to follow GAO's recommendations resulted in KPC cutting "over 160 mmbf of timber worth, according to Forest Service estimates, \$16 million. Yet KPC paid less than 1 percent of that amount in cash - just \$121,719, or 76 cents per thousand board feet. Meanwhile it received refund checks of nearly \$9.4 million."

Response 16-10

It is difficult to provide a simple answer to a statement that simplifies a very complex legal, economic, and contractual situation.

It is correct that the GAO and the Forest Service were not in agreement over the treatment of purchaser credit on the long term sale contracts. It is a matter of a difference in interpretation of contract rights and legal requirements between the GAO and the Forest Service. Congress, because of the GAO report, is aware of this situation.

As explained in response 1-7 and 11-1, the government has to be paid a base rate for timber in cash. The appraisal done by the Forest Service for each sale (Offering Area on the long term contracts) determines the value paid by the purchaser. If a sale appraises out with a negative value, (e.g., -\$10.00/mbf), the value of the sale is raised to the positive base rate value which is paid in cash by the purchaser. When this situation occurs, the purchaser is actually losing money since all the costs appraised for removing the timber exceed the value of the timber. In the timber market, changes in value occur; because of the long term nature of all contracts (1 to 5 years for an independent sale), a method that will protect both the purchaser and the government are contractually provided.

For upward adjustments in value, the government should be fairly compensated; in down cycles, the purchaser has to have a contract right to protect themselves from rates which were determined in years when prices were higher. Changes in commodity prices/values are constant; a prime example of this is the price paid to fisherpersons for their catch, as the rates change every year and reflect market conditions.

On the long term sales (KPC/APC) upward adjustments in rates are mandated quarterly when warranted by prices paid on independent sales. This insures that the government will receive fair market value. The purchaser, when values decrease, can apply for a rate redetermination to insure that they will not pay rates in excess of existing market values.

The situation cited, where a refund was given to KPC, is due to a rate redetermination requested by the purchaser because of the reduced timber prices. Appraisals conducted by the Forest Service, after KPC's request, determined that a downward rate adjustment was warranted, and a refund was necessary. Some of this

overpayment by KPC occurred in previous years and was not attributed to just one year. It should also be pointed out that most of the refunds to KPC, because of the upward comparative adjustment provision in the contract, should be recouped by the government as prices increase.

A timber sale contract is binding on both parties. Both parties have rights and responsibilities. It is very easy to simplify situations that, on the surface, appear to benefit only one party when in reality, the other party has a compensating benefit that should be mentioned.

Comment 16-11

...the DEIS contains absolutely no discussion of the impacts from blowdown on the integrity of buffers alongside salmon streams.

Response 16-11

Blowdown is discussed on page 4-33 of the DEIS.

See also response to Comment 2-5.

Comment 16-12

Even more amazing is the absence of any information of Sealy Corporation's unlawful timber cutting of a unit planned for the Bohemia Mountain Sale... The DEIS suggests that this blunder may happen again.

Response 16-12

There is nothing in the Shamrock DEIS that suggests the timber sale will not be properly implemented. The Forest Service will ensure that implementation of the project conforms to the standards stated in the FEIS and that the timber sale contract is enforced.

Comment 16-13

...the DEIS monitoring section indicates that during sale preparation "minor changes may be made to units and roads to reflect the intent of the mitigative measures presented in this EIS..." The DEIS goes on to try and justify the widespread practice of unit expansion at the discretion of sale administrators and contract inspectors.

Response 16-13

Your statement is correct that minor changes to roads and units are possible during project implementation; however, any changes in unit size that would result in substantial increases in harvest area would require NEPA clearance.

Comment 16-14

The DEIS failed to take a "hard look" at the PACFISH strategy, in this planning process, the best available scientific data relating to salmon habitat protection, (which) violates NEPA because it significantly impedes informed public opinion.

Response 16-14

See response to comment 14-23.

Comment 16-15

...the DEIS gave only cursory attention to this issue (of declining steelhead stocks in the study area). There is absolutely no evidence in the DEIS that declining fish stocks in the study area will not be dramatically impacted as a result of timber sale activities... Sediment loads into anadromous habitat following just one rainy period on deforested anadromous tributaries could wipe out the few dozen fish these emergency measures are designed to protect.

Response 16-15

Except for a small area in the northwest portion of the analysis area, the streams and rivers covered by this EIS are pristine, that is, completely unaffected by past

management actions. Despite this, there is evidence of declining steelhead populations. Because most scientific research indicates that pristine conditions are ideal for salmon and steelhead, the "problem" with steelhead most likely has nothing to do with habitat within the analysis area.

Assuming, however, that habitat is a driving factor in determining population levels of steelhead, several factors suggest that harvest within the analysis area will not have a negative effect on this species. First, even the most intensive action alternative (#2), will not affect a large number of tributaries in the Castle, Keku and Tunehean drainages. These tributaries will serve as refuges for steelhead even if other areas experience some impact. Second, as noted throughout the EIS, numerous actions have been taken to reduce project impacts to fisheries. These actions, cumulatively, greatly reduce the risk of sediment loading or other impacts.

Comment 16-16

The claim that "mitigation measures to prevent temperature impacts to Class III streams are not proposed since harvest is not expected to adversely impact water temperatures in downstream areas" (p.4-33) is contradicted by statements on pp. 4-32, 4-35, and 4-96. (paraphrased)

Response 16-16

See response to Comment 4-1.

Comment 16-17

The DEIS is replete with claims that implementation of BMPs and TTRA buffer requirements will insure fish habitat and water quality protection...there is a notable lack of valid information supporting claims in the DEIS that BMPs are effective at assuring protection of water quality and fish habitat.

Response 16-17

BMPs within the Forest Service's Soil and Water Conservation Handbook (USFS 1993¹) are modified or created based on monitoring and feedback from field staff, including state regulatory agency personnel. Buffers, similarly, are supported by ongoing scientific work in the Pacific Northwest, that has demonstrated their value in maintaining cool temperatures, instream habitat, and in preventing erosion.

1-USFS. 1993. Soil and Water Conservation Handbook. Publication 2509.22, Region 10, USFS, Juneau, AK.

Comment 16-18

Realistic estimates (of funding and personnel) should be included with each monitoring plan proposed in the DEIS. Does the FS have the budget to fund this monitoring? We believe the agency can legally approve only the level of activities which it has the resources to properly monitor.

Response 16-18

Culvert and buffer monitoring projects are currently funded for 1994. Funding is expected to continue in 1994 and beyond. We are developing monitoring plans that are flexible in response to budget changes.

Comment 16-19

We do not believe the reasons cited in the text of the document for exceeding the 100 acre rule meet the requirements for these exceptions. No credible evidence was cited that support real concern for windthrow... Evidence to support cost considerations was completely lacking, as well as information supporting the need to make logical entries.

- Response 16-19** The factors considered in making units in excess of 100 acres are summarized in the DEIS Page 2-14 and described in the Unit Descriptions for each of the units in the DEIS Appendix A.
-
- Comment 16-20** ...we would like to know specific measures the design team took to insure windfirmness for all units.
- Response 16-20** Windthrow is prevalent in timber stands throughout Southeast Alaska. Since windthrow is a common problem throughout all commercial forestlands in Alaska, it is not feasible or practical to completely eliminate blowdown risk. We recognized that once stands are opened up, either through natural or harvesting factors, that the residual stand may be more susceptible to windthrow. Various measures used to minimize this risk included:
- creating large units (including some in excess of 100 acres) to minimize the amount of exposed perimeter;
 - locating unit boundaries along relatively windfirm areas, such as muskegs, rock bluffs and outcroppings, sheltered drainages, and non-commercial or low volume timber stands;
 - including areas in harvest units that would otherwise present a windthrow risk; and
 - where possible, planning the harvest of downwind settings first and leaving future harvest areas upwind.
-
- Comment 16-21** The inclusion of huge tracts of clearcuts have severe implications for wildlife, however there are absolutely no wildlife conflicts cited or mitigation...for this action proposed in the DEIS.
- Response 16-21** Changes to habitat are a result of timber resource extraction. Changes to habitat for MIS important to the Shamrock area have been detailed in the FEIS, with an accompanying estimation of changes to predicted carrying capacity. There is not a significant opportunity to mitigate for lost habitat, for example, higher-value deer winter range, other than to select unit layout and design attributes that minimize these losses. Such considerations were part of the interdisciplinary planning process.
-
- Comment 16-22** Any proposed mitigation for wildlife should provide scientific evidence that supports that the mitigation actually works.
- Response 16-22** Such details were provided in support of green tree retention as a mitigative measure.
-
- Comment 16-23** Had subsistence use been a consideration, timber harvest would have been deferred to other areas less important to subsistence users.
- Response 16-23** Most areas in the Tongass National Forest are important to subsistence users. Deferring timber harvest to other areas or other islands simply impacts different subsistence users. In planning the Shamrock timber sale, harvest units were located, where possible, to minimize impacts on subsistence resources. Timber harvest, in that sense, was deferred to areas less important to subsistence users.

-
- Comment 16-24** The Forest Service preliminary DEIS conclusion that...effects..."will not significantly restrict subsistence use of deer by local residents" is arbitrary because it is not rationally connected to the facts found in the EIS. Also, the preliminary conclusion...is inconsistent with statements made in the North Irish EA.
- Response 16-24** Due in part to public comments, findings on deer have been changed to "may significantly restrict subsistence use" of deer. Refer to the Shamrock FEIS Chapter 4 Subsistence section.
-
- Comment 16-25** ...the Forest Service failed to consider recent changes in (subsistence) use patterns resulting from previously constructed roads in the area (p.4-59)... In fact, one proposed timber harvest unit (Unit 55, 59 acres) is located within mapped subsistence use areas and is accessed directly by Road #45804.
- Response 16-25** Also see Response 12-3. You are correct in stating that Unit 55 was in a mapped subsistence use area as indicated on the TRUCS map. The TRUCS information is the most up-to-date information concerning subsistence use throughout Southeast Alaska. Direct, indirect, and cumulative effects analysis have determined that there may be a "significant effect" to deer. It should be pointed out that this area is located, at the closest, approximately 6 miles inland from the nearest access point on Castle River, 4 miles from the nearest access point on Duncan Canal, and 7 air miles from the nearest existing road. The road mentioned (#45804) is only proposed at this time.
-
- Comment 16-26** Information included in the unit descriptions indicates cutting in "marginal" deer winter range is not mitigated since "adequate habitat exists elsewhere." We would like to know exactly where this "adequate habitat" is located for all the units that this is indicated.
- Response 16-26** See response 9-32.
-
- Comment 16-27** You can't convince us that opening up the entire center of the island with a road network won't significantly affect these important subsistence use areas.
- Response 16-27** We agree. Refer to the revised findings in the FEIS.
-
- Comment 16-28** The DEIS erroneously claims that the "one antlered deer harvest will limit all but local, rural subsistence hunters." In fact, the deer harvest limit on the west side of Duncan Canal was two antlered deer.
- Response 16-28** Correction noted. Rural subsistence users are allowed two male deer (antlered); sport hunters are allowed only one male deer (antlered). It was not expected at the time the DEIS was written that the Alaska state hunting regulations would allow deer hunting on Kupreanof Island. Only the federal subsistence hunting season was expected to open Kupreanof Island to hunting.
-
- Comment 16-29** Please incorporate this information (soon to be available from ADF&G on results of the 1993 island-wide deer season) into your analysis.
- Response 16-29** The ADF&G data on hunter surveys from the 1993 deer season have been incorporated into Subsistence Section of Chapter 4.

Comment 16-30

The DEIS (at p. 4-68) claim that "avoidance of important subsistence use areas such as beach and estuary fringe and riparian areas adjacent to salmon streams" is a reasonable step to minimize adverse impacts upon subsistence users is ridiculous. These steps are required under agency direction and TTRA mandates. Real protection of subsistence habitat would include the designation of retention areas as required by TLMP.

Response 16-30

The revised Subsistence evaluation and findings have corrected earlier statements that suggest that avoiding beach fringes will minimize adverse impacts to subsistence resources.

Comment 16-31

The planning team for this timber sale should strive to follow the 1993 resolution by the Alaska Board of Game, which asks the Forest Service to protect forests for the "long term maintenance of harvestable wildlife populations." (paraphrased)

Response 16-31

Given the mandates for timber harvest specified in the Forest Plan and Forest Plan Revision, and the standards and guidelines of TTRA, the NFMA, the Resource Planning Act, and other laws and guidance governing the USDA Forest Service, we feel the Shamrock timber sale is consistent with the "long term maintenance of harvestable wildlife populations."

Comment 16-32

Despite our scoping request that cumulative impacts be disclosed for all past, present, and future timber harvests on federal and native lands, the DEIS (at 4-66) only mentions that clearcutting on Native lands around Kake may have "the potential for long term implications for subsistence users." Repeated requests by the public have been made in this regard and the issue is repeatedly ignored by your agency.

Response 16-32

The FEIS has included additional information on timber harvesting on Native lands. Also see response to comment 1-8.

Comment 16-33

Deferring subsistence use impacts to an as yet unadopted TLMP Revision is unconscionable.

Response 16-33

The subsistence use impacts have not been deferred to the unadopted TLMP Revision, although every effort was made to assure that the Shamrock EIS analysis was consistent with both the original TLMP and the proposed revision.

Comment 16-34

The City of Kupreanof should be included in the subsistence analysis.

Response 16-34

Hunters from the city of Kupreanof were grouped with Petersburg hunters where appropriate (ADF&G Subsistence Division, Technical Report #164). Refer to the FEIS Chapter 4 Subsistence section.

Comment 16-35

Why were no subsistence hearings held for other potentially affected communities besides Kake and Petersburg?

Response 16-35

ANILCA mandates that if there is a finding of a Significant Restriction that "a hearing" be held in the vicinity of the project area. Furthermore, ANILCA does not require that a hearing be held in every community.

Comment 16-36	Claims made in the subsistence section in the DEIS (p.4-64) that "roads in the study area currently do not exist" are refuted elsewhere (p. 4-2); i.e., "The North Irish Timber Sale includes 4.4 miles of roads in the Shamrock Area." (DEIS at 4-2)
Response 16-36	The statement on p. 4-64 in the DEIS referring to no roads in the study area is incorrect, since one existing road enters the Shamrock area for a short distance in the northwest portion. This statement has been corrected in the FEIS.
Comment 16-37	Since the use of questionable and non-standard databases is the basis for determining proportionality, then proportionality findings are also flawed. (paraphrased)
Response 16-37	A formal proportionality analysis is not conducted in the Shamrock EIS and is not intended to fulfill TTRA requirements applicable to sales purchased by long-term contract holder. The merits or demerits of using the TIMTYP database layer for proportionality analyses is outside the realm of this EIS.
Comment 16-38	The accuracy of TIMCLU (for timber sale planning) should be verified and if it is found to be accurate, then it should be used Forest wide in a standardized manner.
Response 16-38	The Stikine Area is currently evaluating the accuracy of TIMCLU versus TIMTYP for use in habitat capability modeling. For this analysis, biologists determined that the TIMCLU would give the best results. Also see response to 9-21.
Comment 16-39	There were numerous references in the DEIS that the Wild and Scenic eligibility classification for Castle River may be affected by the implementation of Alternative 2. Such actions violate the Wild and Scenic Rivers act and agency direction.
Response 16-39	Discussion of the impacts to the eligibility of a study river, as described in Alternative 2, does not violate agency direction as no action has been chosen to be implemented that would affect the river's eligibility.
Comment 16-40	The Forest Service failed to consider agency requirements for visual quality in the viewsheds of the eligible river corridors. (paraphrased)
Response 16-40	None of the eligible study rivers within the Shamrock Area possess outstandingly remarkable values for scenery. Special emphasis to visual quality in selected alternatives was applied by limiting unit size, reducing the number of units, placement, shaping, and providing green tree and snag retention.
Comment 16-41	The analysis in the DEIS raises serious questions concerning whether proposed mitigation measures (such as partial suspension, yarding, full bench road construction, and endhauling) actually work. NCC incorporates here, by reference, identical concerns raised recently in the appeal of the Central Prince of Wales timber sale.
Response 16-41	There is nothing in the DEIS that raises questions about whether the proposed mitigation measures you specify actually work. The mitigation measures were prescribed by an interdisciplinary team based on on-site evaluations and were to their best professional judgement considered sufficient to minimize risk to other resources, such as soils and water quality. Concerns raised about the Central Prince

of Wales timber sale are specific to that sale, and it is inappropriate to apply them generically to the Shamrock timber sale.

Comment 16-42

If the Forest Service was as concerned about the potential for roaded recreation in the Shamrock area as the DEIS suggests, then cutting units would have been specifically deleted and/or modified along sensitive viewing routes of the road system.

Response 16-42

Some units along the main road (refer to the unit design cards) were modified to improve the visual quality in the road corridor and several units within the road corridor were eliminated under the preferred alternative (Alternative 5). Modification and elimination of units within the road system was limited because the management direction for the visual resource (VQO) allows for maximum modification (refer to Figure 3-15). All the proposed units meet this objective.

In addition, the road system was designed to reduce environmental impacts by accessing the harvest units with the fewest miles of new road construction. Therefore units are located close to the road and would be seen by future recreational visitors. While the harvest units are anticipated to green-up within five years (short-term), the visual appearance of the rock pits are not anticipated to change in the short term. Therefore mitigation measures were proposed to reduce visual impacts associated with the rock pits.

Comment 16-43

The DEIS does not meet NEPA requirements to conduct a detailed and thorough assessment of the impacts of the proposed logging and road building on wildlife.

Response 16-43

This comment occurs with reference to marbled murrelet and northern goshawk. The marbled murrelet is not thought by the Forest Service to be under undue environmental stress in Southeast Alaska. However, the Forest Service, in conjunction with other agencies, is currently exploring management options for species such as the marbled murrelet that are under perceived stress. As information is gathered that defines the amount of stress, management plans will evolve. Current information does not suggest that immediate protective measures are needed. Northern goshawks were not observed in or in close proximity to surveyed harvest units. If goshawk are observed, then protective measures may be implemented.

Comment 16-44

The DEIS fails to completely assess impacts to two species of concern on the Tongass - the Queen Charlotte Goshawk and the Marbled Murrelet.

Response 16-44

See above response.

Comment 16-45

By whose authority is the claim the loss of foraging area (about half of Unit 6 is 44 acres-not 25) is not significant?... Unit 6 and the associated section of road should be deleted from the sale.

Response 16-45

See response 3-6.

Comment 16-46

For murrelets, the DEIS (at 4-25) simply claims that the proposed harvest would at most "result in a 5.5 percent loss of old-growth that could potentially decrease murrelet populations by a similar percentage in the analysis area." We wonder what the basis for these conclusions were.

Response 16-46	The text has been revised.
Comment 16-47	None of the Forest Service proposed mitigation efforts apply to goshawk or murrelet and interim guidance for goshawk are unsubstantiated.
Response 16-47	<p>The FEIS text has been revised to reflect current management activities for northern goshawk in the project area. With respect to the substantiation of the interim guidance, the guidance represents a current professional consensus within the Forest Service; the guidance will evolve when substantive data support a change.</p> <p>The marbled murrelet is not considered by the Forest Service to be under undue environmental stress in Southeast Alaska. However, the Forest Service, in conjunction with other agencies, is currently exploring management options for species such as the marbled murrelet that are under potential stress. As information is gathered that defines the amount of stress, management plans will evolve. Current information does not suggest that immediate protective measures are needed.</p>
Comment 16-48	...the DEIS is flawed for failure to assess site-specific impacts of this project (on goshawk or marbled murrelet)... Will surveys for these species be completed as required?
Response 16-48	As indicated in the DEIS, marbled murrelets are common, and widely dispersed throughout the analyzed areas; no goshawks were observed within surveyed harvest units.
Comment 16-49	Noticeably absent from your document is incorporation of the Interagency Viable Population Committee Recommendations.
Response 16-49	The recommendations of the Viable Population Committee were discussed in the Biodiversity section of the DEIS and are retained in the FEIS. These recommendations are still in draft form and have not as yet been adopted by the Forest Service as official guidelines.
Comment 16-50	The DEIS is replete with confusing information concerning the North Irish Timber Sale Reoffer, i.e., whether the North Irish sale is currently being harvested, the current existence of roads in the project area, the length of the roads, implications that the essential "road link" has been built, etc. (Examples on pp. 4-88, 4-64, 3-1, 4-2, 2-19, 4-73, 4-55, 4-60, Fig. 1-2.)
Response 16-50	Corrections have been made to reduce confusion. Also see response to Comment 16-6.
Comment 16-51	Was a Multi-entry logging plan (MELP) developed for this project? ...Could the MELP be the source of statements disclosed in the DEIS that "with current and proposed management direction, successive timber harvesting over the next 30 to 50 years, 100 percent of all suitable forest land in the area may be harvested" (p.4-14).

Response 16-51

During the initial stages of project development a long-term transportation and logging plan or multi-entry logging plan was developed from aerial photographs of the Shamrock area. The harvest units and proposed in this project were a result of this initial process.

See response to comment 1-5 regarding successive timber harvesting over the next 50 years.

Comment 16-52

Once again the DEIS completely fails to correctly implement the requirements for identifying, designating, and maintaining wildlife retention as specified in the current TLMP, as amended 1985-1986... We formally request that an amended DEIS be issued to enable subsistence users the opportunity to address concerns about which areas are selected.

Response 16-52

Areas to be managed as old-growth habitat throughout the life of the Shamrock project are described in the FEIS.

Comment 16-53

What measures have been proposed to mitigate the "impacts to wildlife movements" as indicated in the DEIS (p. 4-23)?

Response 16-53

Selection of unit layout and design attributes that minimize disturbance to wildlife corridors were considered during the interdisciplinary planning process.

Comment 16-54

Why the sudden attention to Dwarf Mistletoe in this DEIS? ...We get the feeling that the Forest Service is grasping at straws to justify clearcutting to the extent proposed in the Preferred Alternative.

Response 16-54

Clearcutting is recommended and is considered appropriate for use in the Western Hemlock-Sitka Spruce Timber Type (USDA Forest Service, 1983); (Harris and Johnson, 1973). Mistletoe infection is a real concern in partial cut areas, because of the risk of reinfection to the regenerated timber stand (See the Draft Environmental Impact Statement, Tongass Land Management Plan Revision, 1990). Other factors include favoring regeneration of Sitka spruce, maximizing timber yields, cheaper logging costs, and minimizing residual timber damage.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue
Seattle, Washington 98101

RECEIVED

REPLY TO
ATTN OF:

WD-126

FEB 10 1994

EA Engineering Science & Technology
Northwest Operations

Mr. Ron Bockelman
EA Engineering, Science & Technology
8520 154th Avenue NE
Redmond, Washington 98052

Dear Mr. Bockelman:

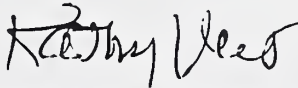
The Environmental Protection Agency (EPA) has reviewed the draft Environmental Impact Statement (EIS) for the **Shamrock Timber Sales** in the Stikine Area on the Tongass National Forest. Our review was conducted in accordance with the National Environmental Policy Act (NEPA) and our responsibilities under Section 309 of the Clean Air Act.

This draft EIS evaluates the no action alternative and four action alternatives for intensive resource use for commodity/market resources on Kupreanof Island. This draft EIS evaluates the environmental consequences resulting from timber harvest, road construction, and management of other resources in the planning area. The Shamrock area is undeveloped and this initial entry timber sale proposes to harvest between 20.0 and 52.4 MMBF on 1,066 to 2,592 acres with 21.5 to 39.7 miles of road construction. All action alternatives show a negative estimated net value which reflects the initial capital investment in specified road construction.

Based on our review, we are rating this draft EIS EC-2 (Environmental Concerns-Insufficient Information). Our environmental concerns are based on the potential adverse effects to existing beneficial uses of streams in the Shamrock analysis area from this timber sale and future timber sales. We have requested additional information about compliance with water quality standards, mitigation effectiveness, cumulative effects, site-specific monitoring, and noise effects. Our detailed comments are enclosed. An explanation of the EPA rating system for draft EISs is enclosed for your reference. This rating and a summary of these comments will be published in the *Federal Register*.

We appreciate the opportunity to review and provide comments on this draft EIS. If you have any questions about our review comments please contact Sally Brough in our Environmental Review Section at (206) 553-4012.

Sincerely,



Kathy Veit, Chief
Program Coordination Branch

Enclosures: review comments
Draft EIS rating system

cc: Jim Thompson

**Environmental Protection Agency (EPA)
Detailed Review Comments on the
Shamrock Timber Sales
Draft Environmental Impact Statement**

The Shamrock Draft Environmental Impact Statement (draft EIS) is generally an informative, well prepared and comprehensive document. It addresses most of the pertinent issues and potential environmental impacts of project activities very well. Although the information in the draft EIS is good, we have provided comments on some issues of concern.

Habitat Capability Models

The use of habitat capability models for wildlife species is a useful tool for predicting the potential effects of the proposed action. It provides a means to quantitatively compare the environmental consequences of the alternatives. However, it is also important to include an indication that these habitat capability models have been ground truthed and actually represent field conditions. While the models provide an estimate of habitat quality for a given area, modelled habitat quality may not be a reliable indicator of actual carrying capacity. This is an important fact that should be expanded upon in the final EIS. It provides an avenue for discussion of relevant wildlife surveys and other baseline data gathering efforts in the Shamrock Area. Since this is the initial entry into the Shamrock area and the roads built for this sale are intended to provide access for future sales, it is important to gather actual habitat and water quality baseline data to fully document current habitat conditions.

Habitat capability is not necessarily an accurate indication of the actual numbers of fish that presently exist. The final EIS should include pertinent information about the natural states of the watersheds in the Project Area. Site specific thresholds of concern for water bodies in the Project Area need to be developed based on fish habitat capability models and fish survey results. Water bodies that do not meet Forest Plan Standards and Guidelines or State Water Quality Standards should be identified and presented in a clear format in the final EIS. Water temperature concerns were identified for Castle River during public scoping. Additionally, fish kills from high water temperatures in Tunehean Creek have been reported. The final EIS needs to explain the reason for the temperature problems. The final EIS should clearly demonstrate that project implementation will not exacerbate these temperature problems and comply with state Water Quality Standards. If this is not possible, the project should be modified to avoid water quality impacts.

Water Quality

The relationship between State Water Quality Standards and Forest Plan Standards and Guidelines should be made clear in the final EIS. EPA understands that Alaska Department of Environmental Conservation (ADEC) will not be able to inventory all state water bodies for the 305(b) report. This does not mean that water bodies not included on

the list should be exempt from protection. If there are impaired water bodies in the Project Area where Forest Plan Standards and Guidelines are not being met, a plan for watershed restoration should be implemented. Timber harvest activities should be temporarily curtailed in these watersheds until full recovery can be demonstrated. The final EIS should clarify whether Tunehean Creek is an impaired water body.

The draft EIS provides a brief description of water quality. If data from relevant sampling efforts exist it should be included as part of the "affected environment" discussion. The discussion should identify the amount and quality of available resource information, including data gaps and needs. When baseline water quality data are not available, assessments based on extrapolation from comparable watersheds or professional opinion should be carefully explained.

The final EIS should provide a quantitative basis to judge whether physical and chemical parameters, such as temperature, turbidity, and sediment accumulation, will be kept at levels that will protect and fully support designated uses and meet Water Quality Standards under each of the action alternatives. The state's identification of water bodies with impaired uses, as well as the magnitude and sources of such impairment, should also be included.

Cumulative Effects

The analysis of cumulative effects on fish resources and water quality states that (page 4-49),

"Cumulatively, these sales (future sales) could increase sediment inputs, storm peakflows, and lowflows, but no substantial changes would likely occur if the total area harvested remains below 20 to 25 percent and the total roaded area is below 12 percent for each watershed. Future as yet unplanned harvests are expected to take place in the Shamrock area over a 10 to 50 year timeframe. These harvests and associated roads would contribute to greater cumulative effects, although the extent of these effects is presently unknown."

The final EIS needs to develop an extensive monitoring plan for the analysis area to confirm that these threshold levels for harvest and road building will be protective. The decision of whether to harvest or not, in the future, should clearly take into account the impacts of this sale's activities on water resources. The Forest Service does have control over future timber harvest impacts and baseline data are critical to the decision process.

Section 319 of the Clean Water Act

Section 319 addresses surface water quality assessments and a non point source pollution management program. These assessments identify surface water that cannot reasonably be expected to attain or maintain applicable Water Quality Standards or goals without control of non point source pollution.

The federal consistency provisions of Section 319 represent an opportunity for state and federal agencies to more closely coordinate their activities and cooperate in achieving water quality goals. If a state determines that a federal project is not consistent with the provisions of the non point source program, the federal agency must make efforts to accommodate the state's concerns. Executive Order 12372 provides guidelines for using the state intergovernmental review process for conducting Section 319 federal consistency reviews.

The NEPA process must also integrate the provisions of Section 319. Existing water quality conditions in the final EIS documents should reflect the state's water quality assessment. Direct or indirect non point source water quality effects should be reduced through design and through mitigation measures to ensure consistency with the state's non point source program.

Monitoring

EPA places a high level of interest on forest monitoring practices. The final EIS should include a discussion of monitoring for each resource category determined to be significant through the scoping process, including fisheries and water quality. A well designed monitoring plan will address how well the preferred alternative resolves issues and concerns by measuring the effectiveness of the mitigation measures in controlling or minimizing adverse effects. The final EIS should include a discussion of how the three types of monitoring (implementation, effectiveness and validation monitoring) are being incorporated into this project. In addition, the relationship between project monitoring activities and the forest-wide monitoring plan should be described.

The monitoring plan should include types of surveys, location and frequency of sampling, parameters to be monitored, indicator species, budget, procedures for using data or results in plan implementation, and availability of results to interested and affected groups. Helpful resources for the development of water quality and biological monitoring plans are:

Monitoring Guidelines to Evaluate Effects of Forestry Activities on Streams in the Pacific Northwest and Alaska, EPA/910/9-91-001, May 1991.

Rapid Bioassessment Protocols For Use in Streams and Rivers, EPA/444/4-89-001, May 1989.

The final EIS should also describe the feedback mechanisms which will use monitoring results to adjust standards and guidelines, BMP's, standard operating procedures, monitoring intensity, and timber sale administration at first detection of unexpected, adverse effects. This ensures that mitigation strategies will improve in the future and that unforeseen adverse effects are identified and minimized.

The discussion of monitoring on page 4-35 provides a good description of the Forest Service procedure for project implementation and contract enforcement. However, without the feedback loop (processing of monitoring data and reporting on the results of the monitoring effort) monitoring is not complete. The final EIS and Record of Decision should commit to a feedback mechanism and describe it. We understand that an effectiveness monitoring strategy is being developed for the Petersburg District area by the Forest Service and in conjunction with the ADEC Forest Practices staff. This effectiveness monitoring strategy should include the Shamrock timber sale and the strategy should be included in the final EIS.

Mitigation/Stream Management Prescriptions

A comprehensive discussion of proposed mitigation for direct, indirect and cumulative impacts is required by the CEQ regulations (40 CFR 1508.7). Judicial reviews of NEPA cases have supported the need for identifying mitigation measures as well as the need to discuss the effectiveness of mitigation measures. The final EIS should provide a quantitative (if possible) and/or a qualitative description of site-specific mitigation effectiveness. Prior timber sales in comparable areas could be used as a basis for these discussions.

Management prescriptions for Class III streams are not always clear on the unit cards. Some streams are clearly identified for type "B" protection and others for type "C" protection. Several units have unclear or nonexistent prescriptions (438-22, 436-32, 436-33, 436-36, 436-82, and 429-45). The final EIS should clarify what Class III stream management prescriptions apply to the above units.

Noise

Since helicopter logging is proposed, the final EIS should indicate the estimated number of days and times of helicopter operation. Helicopters at 500 feet are comparable to sound levels of heavy trucks and city buses heard from the street, which could be considered a significant impact in areas with very low ambient noise levels. The levels and character of noise that would be expected from helicopter operations in the vicinity should be described. A source of information for noise effects of helicopters in non-urban areas is the *National Surface Water Survey - Western Wilderness Area Lakes, Environmental Assessment*, EPA 910/9-85-126, April 1985. Copies of this document may be borrowed from the EPA, Region 10 library, at (206) 553-1259.

**SUMMARY OF THE EPA RATING SYSTEM
FOR DRAFT ENVIRONMENTAL IMPACT STATEMENTS:
DEFINITIONS AND FOLLOW-UP ACTION ***

Environmental Impact of the Action

LO—Lack of Objections

The EPA review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

EC—Environmental Concerns

The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce the environmental impact. EPA would like to work with the lead agency to reduce these impacts.

EO—Environmental Objections

The EPA review has identified significant environmental impacts that must be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

EU—Environmentally Unsatisfactory

The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potential unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the CEQ.

Adequacy of the Impact Statement

Category 1—Adequate

EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis or data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

Category 2—Insufficient Information

The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses, or discussion should be included in the final EIS.

Category 3—Inadequate

EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussion are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the NEPA and/or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

*From EPA Manual 1640 policy and Procedures for the Review of Federal Actions Impacting the Environment.

U.S. Environmental Protection Agency (#17)

Comment 17-1

...(I)t is also important to include an indication that these habitat capability models have been ground truthed and actually represent field conditions. While the models provide an estimate of habitat quality for a given area, modelled habitat quality may not be a reliable indicator of actual carrying capacity. This is an important fact that should be expanded upon in the final EIS.

Response 17-1

The habitat capability models used by Alaska Region Forest Service are developed specifically for Southeast Alaska by biologists from state and federal agencies. They are ground-truthed before implementation and periodically ground-truthed to verify their continued reliability and to evaluate any modifications. We have elaborated in the FEIS on the limitations of habitat capability models and their estimates of carrying capacity.

Comment 17-2

Since this is the initial entry into the Shamrock area and the roads built for this sale are intended to provide access for future sales, it is important to gather actual habitat and water quality baseline data to fully document current habitat conditions.

Response 17-2

Documentation of baseline habitat and water quality conditions can be found in the Fisheries and Watershed Resource Inventory Reports for this project.

Comment 17-3

Site specific thresholds of concern for water bodies in the Project Area need to be developed based on fish habitat capability models and fish survey results. Water bodies that do not meet Forest Plan Standards and Guidelines or State Water Quality Standards should be identified and presented in a clear format in the final EIS... The final EIS needs to explain the reason for the temperature problems (in the Castle River and Tunehean Creek). The final EIS should clearly demonstrate that project implementation will not exacerbate these temperature problems and comply with state Water Quality Standards.

Response 17-3

Fish habitat modeling and the development of site specific thresholds of concern are beyond the scope of this EIS. Fish habitat survey results did not indicate significant fish population problems within the analysis area. For more information, refer to the Fisheries Resource Report for this project. Also see response to comment 4-1b of the Shamrock DEIS relating to stream temperature.

Comment 17-4

The relationship between State Water Quality Standards and Forest Plan Standards and Guidelines should be made clear in the final EIS.

Response 17-4

Clarification of the relationship between State Water Quality Standards and Forest Plan Standards and Guidelines is a Forest level issue that is outside of the scope of a project level EIS such as this one. Implementation of the April 1992 Memorandum of Agreement (MOA) between the Alaska Region of the Forest Service and the Alaska Department of Environmental Conservation will satisfy all state and federal nonpoint source pollution control requirements.

Comment 17-5

If there are impaired water bodies in the Project Area where Forest Plan Standards and Guidelines are not being met, a plan for watershed restoration should be implemented... The final EIS should clarify whether Tunehean Creek is an impaired water body.

Response 17-5

The Shamrock area has had only a small amount of previous land management activities in the Big John Creek watershed. Since essentially natural conditions exist for all watersheds and water bodies other than Big John Creek, no watershed restoration of these natural condition is warranted. Please see response to DEIS comment 4-1b for a thorough discussion of the temperature sensitivity issue in the Shamrock area.

Comment 17-6

The draft EIS provides a brief description of water quality. If data from relevant sampling efforts exist it should be included as part of the "affected environment" discussion. The discussion should identify the amount and quality of available resource information, including data gaps and needs.

Response 17-6

The Fisheries Resource Inventory Report prepared for this project (Barrett 1993) contains all known water quality sampling data. No long term water quality or fisheries habitat data are available from either the State or the Forest Service. Also see response to DEIS comment 6-6d.

Comments 17-7

The final EIS should provide a quantitative basis to judge whether physical and chemical parameters, such as temperature, turbidity, and sediment accumulation, will be kept at levels that will protect and fully support designated uses and meet Water Quality Standards under each of the action alternatives. The state's identification of water bodies with impaired uses, as well as the magnitude and sources of such impairment, should also be included.

Response 17-7

Quantitative models linking forestry related land use to specific water quality levels are not available and are beyond the scope of the EIS. In the Watershed and Fisheries sections of the DEIS and FEIS, however, there is considerable analysis on the relative comparison of alternatives with respect to water quality impacts.

Comments 17-8

The final EIS needs to develop an extensive monitoring plan for the analysis area to confirm that these threshold levels for harvest and road building will be protective. The decision of whether to harvest or not, in the future, should clearly take into account the impacts of this sale's activities on water resources.

Response 17-8

See response to DEIS comment 6-6d for a discussion of monitoring. The basis for determining future harvest levels beyond the Shamrock Timber Sale is outside the scope of this EIS.

Comments 17-9

The NEPA process must also integrate the provisions of Section 319. Existing water quality conditions in the final EIS documents should reflect the state's water quality assessment. Direct or indirect non point source water quality effects should be reduced through design and through mitigation measures to ensure consistency with the state's non point source program.

Response 17-9

The Alaska Region of the Forest Service signed a Memorandum of Agreement (MOA) with the Alaska Department of Environmental Conservation in April, 1992. This MOA describes both agencies responsibilities for nonpoint source pollution control on National Forests in Alaska and provides the framework for compliance with the Clean Water Act. Forest wide standards and guidelines (TLMP) and best

management practices (FSH 2509.22) will be used to ensure that the State's non-point source regulations are not violated.

Comments 17-10

The final EIS should include a discussion of monitoring for each resource category determined to be significant through the scoping process, including fisheries and water quality... The final EIS should include a discussion of how the three types of monitoring (implementation, effectiveness and validation monitoring) are being incorporated into this project. In addition, the relationship between project monitoring activities and the forest-wide monitoring plan should be described.

The monitoring plan should include types of surveys, location and frequency of sampling, parameters to be monitored, indicator species, budget, procedures for using data or results in plan implementation, and availability of results to interested and affected groups...

The final EIS should also describe the feedback mechanisms which will use monitoring results to adjust standards and guidelines, BMP's, standard operating procedures, monitoring intensity, and timber sale administration at first detection of unexpected, adverse effects...

This effectiveness monitoring strategy (of the Petersburg Ranger District) should include the Shamrock timber sale and the strategy should be included in the final EIS.

Response 17-10

Where appropriate, discussions of monitoring are included at the end of each issue (e.g., fisheries, wildlife) in Chapter 4 of both the DEIS and FEIS. Also see responses to DEIS comments 6-6d and 9-34.

Comment 17-11

The final EIS should provide a quantitative (if possible) and/or a qualitative description of site-specific mitigation effectiveness. Prior timber sales in comparable areas could be used as a basis for these discussions.

Response 17-11

A discussion of the effectiveness of mitigation measures is provided in the FEIS Chapter 2 section on mitigation. Those mitigation measures proposed here are judged to be effective when properly implemented.

Comment 17-12

Management prescriptions for Class III streams are not always clear on the unit cards. Some streams are clearly identified for Type "B" protection and others for type "C" protection. Several units have unclear or nonexistent prescriptions (438-22, 436-32, 436-33, 436-36, 436-82, and 429-45). The final EIS should clarify what Class III stream management prescriptions apply to the above units.

Response 17-12

See response to DEIS comment 9-70.

Comment 17-13

Since helicopter logging is proposed, the final EIS should indicate the estimated number of days and times of helicopter operation... The levels and character of noise that would be expected from helicopter operations in the vicinity should be described.

Response 17-13

There are no residents or current recreational users in the Shamrock area that would be affected by helicopter noise in or near the units proposed for helicopter logging. Noise is therefore not considered to be a significant issue for this timber sale.

Appendix G

Public Comments to Draft EIS Supplement and Forest Service Responses

THE HISTORY OF THE

REIGN OF

CHARLES THE FIRST

Appendix G

Public Comments to Draft EIS Supplement and Forest Service Response

Commenting Person or Group	Date	Page
(#S1) Brian S. Brown	21 Dec 1994	2
(#S2) Edna Davis Jackson	30 Jan 1995	6
(#S3) Michael Medalen	29 Jan 1995	11
(#S4) Craig Olson	4 Jan 1995	19
(#S5) Alaska Lumberman's Association	30 Jan 1995	21
(#S6) Ketchikan Pulp Company	30 Jan 1995	25
(#S7) Narrows Conservation Coalition	30 Jan 1995	27
(#S8) City of Kupreanof	27 Jan 1995	63
(#S9) Alaska Division of Governmental Coordination	30 Jan 1995	67
(#S10) Alaska Department of Fish and Game	27 Jan 1995	70
(#S11) Alaska Department of Environmental Conservation	27 Jan 1995	80
(#S12) Department of the Army	1 Feb 1995	85
(#S13) United States Environmental Protection Agency	25 Jan 1995	90
(#S14) United States Department of Interior	26 Jan 1995	94

The following comment was received after the close of the comment period. It was considered to the extent possible, but was not given a formal Forest Service response in this Appendix.

(#S15) Ketchikan Pulp Company	8 Feb 1995	98
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RECEIVED

DEC 27 1994

EA Engineering Science & Technology
Northwest OperationsPO Box Fak
Sitka, AK 99835
December 21, 1994Ron Bockelman
EA Engineering, Science, & Technology
8520 154th Ave. NE
Redmond, WA 98052

Dear Mr. Bockelman,

Please accept the following comments pertaining to the recently issued Draft Environmental Impact Statement on the Shamrock Timber Sale.

1 I have little hope of seeing this timber sale ever sold for the following reason: By the time any further revisions are made in it to account for the alleged residence of a goshawk or two, there will be no way for a purchaser to make any profit. Indeed, at this point it looks to be impossible without further revision. Apparently no attempt is being made to make this an economic offering since no mention of that fact is made in the draft document. I question anyone's judgement who would propose a sale at 4 million dollars deficit and then state that it would likely be altered to preserve more habitat, thereby increasing the deficit. Why bother issuing the draft at all? Why not start somewhere useful like making only economic proposals that will hold up in court?

2 Building 40 miles of road to get 40 MMBF of timber is hardly practical especially when coupled with all the bridges, pipes and timing windows you have committed a prospective purchaser to before they even get a chance to plan. If this road is useful for recreation or subsistence hunting as you imply, why not explore options in your NEPA document to get someone to cost share it.

3 Another point, your subsistence hunting tables show populations of Wrangell, Petersburg and Kake doubling and tripling in the near future. Apparently you are unaware how the recent USFS policy statements will impact population trends in these communities. By lowering the annual cut as drastically as the Region 10 office is proposing, the town of Wrangell will be devastated. Unless similar capital is generated through other ventures the entire population of Southeast Alaska will plummet. There will not be 5000 people in Wrangell kept busy looking for goshawk nests.

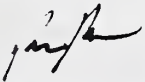
4

Finally, as you are well aware the scope of the NEPA process is not to include rampant speculation on activities pertaining to unlisted species such as the goshawk. Cutting timber has an effect on many species. How the NEPA document expresses the impact of cutting or any human activity should depend on proof. There is no proof that the goshawk is endangered or that cutting timber will contribute to it becoming endangered. This point should be stressed in your document at least as stridently as the statements supporting the alleged demise of goshawk habitat.

5

To conclude, I would like to state that, as usual, it appears that the USFS has squandered our money doing a NEPA document without giving consideration to economics. It is also quite likely that the field work, as is always the case, will be substandard and need to be redone. Since Accountability in the NEPA process does not appear to exist, some incentive needs to be made to insure that documents of this kind do continue to contribute to the demise of the timber industry and be made cost effective.

Sincerely,



Brian S. Brown

COMMENTS TO SHAMROCK SDEIS AND RESPONSES BY FOREST SERVICE

Brian S. Brown (#S1)

Comment S1-1

I have little hope of seeing this timber sale ever sold for the following reason: By the time any further revisions are made in it to account for the alleged residence of a goshawk or two, there will be no way for a purchaser to make any profit.

Response S1-1

The planning for the Shamrock Timber Sale has attempted, to the greatest extent possible, balance economics and resource protection. Although important resource considerations, such as the protection of northern goshawk nests, do affect where timber can be harvested, Alternative 5 of the Shamrock Timber sale would offer more than 40 MMBF of timber to potential purchasers. The estimated deficit shown in the mid-market appraisal is based on a ten-year average of market prices that experience wide fluctuations. The purpose of the mid-market appraisal is to show the relative efficiency between alternatives, rather than an absolute estimate of profit or loss.

Comment S1-2

If this road (40 miles of proposed road in the Shamrock area) is useful for recreation or subsistence hunting as you imply, why not explore options in your NEPA document to get someone to cost share it.

Response S1-2

Although we agree that it would be desirable to construct less road to harvest 40 MMBF of timber, the volume of timber available and the protection of other resources have dictated the amount of road necessary to meet the Shamrock Timber Sale purpose and need. The primary purpose of constructing 40 miles of road is to access timber. Although recreation or subsistence users may travel on roads that remain open after the sale, this use is incidental.

Comment S1-3

By lowering the annual cut as drastically as the Region 10 office is proposing, the town of Wrangell will be devastated. Unless similar capital is generated through other ventures the entire population of Southeast Alaska will plummet.

Response S1-3

The programmatic analysis you refer to is beyond the scope of this project level analysis. The programmatic analysis of the entire Tongass National Forest timber sale program is documented in the FEIS for the Forest Plan (TLMP). This programmatic analysis is being updated as part of the supplement to the Draft EIS for the TLMP revision.

The purpose and need for this project is identified as providing approximately 22 to 54 million board feet of timber to the timber industry. The alternatives range from no action to harvesting approximately 54 million board feet. Regional income generated from this project ranges from \$0 to \$17.9 million depending on alternative (see Economics section of Chapter 4 of the FEIS).

Comment S1-4

How the NEPA document expresses the impact of cutting or any human activity should depend on proof. There is no proof that the goshawk is endangered or that cutting timber will contribute to it becoming endangered. This point should be stressed in your document at least as stridently as the statements supporting the alleged demise of goshawk habitat.

Response S1-4

Our analysis of the effects of timber harvest on northern goshawk viability is based on the current knowledge of goshawk biology in Southeast Alaska. Although the understanding of goshawk biology and conclusions regarding the current status of goshawk viability in Southeast Alaska (i.e., its listing as a Federal Threatened species by the USFWS) are currently in a state of flux, we have made this clear in both the Shamrock DEIS and SDEIS. Conclusions about the effects of timber harvest on northern goshawk, as well as many other issues in the Shamrock EIS, are drawn from a thorough, scientific evaluation of the available information and address all "reasonable foreseeable significant adverse impacts" as required by NEPA (40 CFR 1502.22).

Comment S1-5

...I would like to state that, as usual, it appears that the USFS has squandered our money doing a NEPA document without giving consideration to economics. It is also quite likely that the field work, as is always the case, will be substandard and need to be redone. Since Accountability in the NEPA process does not appear to exist, some incentive needs to be made to insure that documents of this kind do (not) continue to contribute to the demise of the timber industry and be made cost effective.

Response S1-5

Substantial consideration was given to economics in the planning of all action alternatives for the Shamrock Timber Sale. Location of harvest units, unit layout, logging systems, and road construction were all evaluated in attempting to make the sale as economically efficient as possible, while protecting other resources. Field work for both the timber harvest planning and the evaluation of other resources was done professionally with prescribed quality control/quality assurance and is well documented in the planning record. Accountability in the NEPA process consists of several factors including: (1) a thorough documentation of all timber sale planning activities in the planning record which is open for public scrutiny; and (2) extensive public involvement through scoping, open hearings, and written comments. We are not sure how to interpret the last part of your comment, but we can say that the intent of the Shamrock DEIS and SDEIS is to thoroughly and accurately assess and disclose the effects of the proposed Shamrock Timber Sale on all relevant issues.

Edna Davis Jackson
P.O. Box 163
Kake, Alaska 99380
Telephone 907/785-4177

LETTER #52

January 30, 1995

Abigail R. Kimbell, Forest Supervisor
Tongass National Forest, Stikine Area
Petersburg Ranger District
P.O. Box 1328
Petersburg, Alaska 99388

RECEIVED
JAN 30 1995

Re: Shamrock DEIS on Kupreanof Island
North Irish Creek Reoffer

Dear Ms. Kimbell:

I am a lifelong Kake resident. As a child, I grew up with much of our food being provided by my Tlingit father from off the land. My brothers and sisters and I were raised on deer, salmon, herring, halibut, clams, geese and other wildlife that my father brought home for us. As we grew older, logging impacted subsistence activities for the community. We found that we had to go to other islands to hunt our deer, to catch our herring, harvest roe, but many practiced subsistence gathering to the fullest extent possible. Many non-native people do not realize that subsistence activities are important to Native people both culturally and economically.

I am writing in favor of the 'no action' approach to harvesting timber in the North Irish Creek Reoffer and the Shamrock analysis area on Kupreanof Island for a number of reasons:

--Timber harvest economics:

As a U.S. taxpayer, I am against selling any more of our National Forest at a subsidized rate. If there must be timber sales, we should be looking at keeping the timber in this country and encouraging value-added enterprises.

--Wetlands and watershed:

--Stream habitat conditions for fish:

All the alternatives pose some risk to fisheries and watershed. Even though the DEIS says the effects of their preferred alternative would be 'intermediate', after seeing the effects of watershed logging on our Gunnuck Creek here in Kake, I feel that removing trees from watershed will take away the area's ability to retain water. Our own Gunnuck Creek rises to almost a raging flood during a good rainstorm, and goes down to only a few inches in a hot summer, the results of watershed logging. The same thing will happen to watershed logging in the above-mentioned sales.

The log dumping site at Hamilton Bay is also a location for returning herring to spawn. This dump site is a prime example of the USFS not doing its homework before constructing the site. Thousands of herring used to return to this little bay, and they are all but wiped out now.

Letter to A. Kimbell, U.S.F.S.

--Wildlife habitat:

--Recreation:

Although new roads open up areas to recreational use, we have noted that there is an increase in the number of non-residential hunters who now come to Kake to hunt deer, bear and moose. The numbers have increased most notably in the last two years when hunting opened up on our island after being closed for twenty years. There is nothing sporting about hunting from a pickup truck or even bagging your trophy from the Kake garbage dump. Prior to the deer and moose opening, Kake residents noticed an increase in non-residential hunters for bear hunting. One summer, my husband and I came across two bear hunters who had half a dozen bear carcasses spread out on the log dumping facility at Hamilton Bay. I know that the USFS is not responsible for hunting practices being used by a few. The point I am trying to make is that all these roads on our island make the wildlife extremely accessible, and we are getting increased numbers of hunters every year. The USFS forecasts took Kake's population into account; you need to take into account the number of non-resident hunters and their dramatic increase in the past few years.

--Subsistence:

As mentioned in the opening of this letter, subsistence is extremely, extremely important to this community and to my family. I have a concern that the increase in accessibility to deer will result in closure of deer hunting on our island again. I have a concern that logging in the watersheds will result in silting of the rivers, and inability of remaining trees to retain water, affecting the stream habitat conditions for fish.

--Old-growth forests:

Lastly, and perhaps most importantly, we need to be saving our old-growth forests. The USFS is gnawing away at our country's old growth forests until there will be nothing left. Forestry people, of all professional people, should realize the uniqueness of old growth and quit the wholesale clearcuts of irreplaceable national treasures.

At the subsistence hearing held in Kake this week, 20 people were in attendance. This is approximately 5% of Kake's voting population who came to a public meeting to express to you how deeply they feel about this issue. I wonder what the numbers would be if 5% of Petersburg's population or Sitka's population spoke out to be heard in a unified voice. I wonder if you would you listen to them. But then, as someone said at the Kake hearing, we're just a little native village. There is a growing frustration that even though we are provided an opportunity to speak, no one is really listening. Thank you for electing to hold an ANILCA 810 subsistence hearing and giving Kake residents opportunity to respond to the above-mentioned sales.

Sincerely,

Edna Davis Jackson

Edna Davis Jackson

Edna Davis Jackson (#S2)

Comment S2-1

I am writing in favor of the 'no action' approach to harvesting timber in the North Irish Creek Reoffer and the Shamrock analysis area on Kupreanof Island for a number of reasons:

Response S2-1

Comment noted

Comment S2-2

As a U.S. taxpayer, I am against selling any more of our National Forest at a subsidized rate. If there must be timber sales, we should be looking at keeping the timber in this country and encouraging value-added enterprises.

Response S2-2

The Shamrock Timber Sale will not be subsidized by the U.S. taxpayers. The Forest Service is governed by regulations that establish minimum rates for timber species and species groups. See responses to DEIS Comments 1-7 and 11-1 in Appendix F. Primary manufacturing is required on timber from the National Forests within Alaska.

Comment S2-3

Even though the DEIS says the effects of their preferred alternative would be 'intermediate', after seeing the effects of watershed logging on our Gunnuck Creek here in Kake, I feel that removing trees from watershed will take away the area's ability to retain water.

Response S2-3

Impact to watersheds associated with tree harvest including changes in stream flow is discussed on pages 4-43 and 4-44 of the DEIS and page 4-10 of the SDEIS. Significant changes in streamflow are generally not observed until at least 20 percent of the watershed has been harvested. For the proposed Shamrock Timber Sale, the maximum area of any watershed harvested under any alternative is 5.6 percent (Castle River, Alternative 2), and the maximum under the preferred alternative is 4.7 percent for the Big John Creek watershed.

Comment S2-4

The log dumping site at Hamilton Bay is also a location for returning herring to spawn. This dump site is a prime example of the USFS not doing its homework before constructing the site. Thousands of herring used to return to this little bay, and they are all but wiped out now.

Response S2-4

The Little Hamilton log transfer facility is an existing permitted site. The site was restructured in 1983 to allow the logs to be placed on a barge, thereby reducing impacts to the bay due to wave action or accumulation of wood debris on the bottom of the bay. Appropriate measures will be taken to protect herring from barging activities.

Comment S2-5

The point I am trying to make is that all these roads on our island make the wildlife extremely accessible, and we are getting increased numbers of hunters every year. The USFS forecasts took Kake's population into account; you need to take into account the number of non-resident hunters and their dramatic increase in the past few years.

Response S2-5

We agree that additional roads will make wildlife more accessible to both subsistence and non-subsistence hunters (see p. 4-19 in the Shamrock SDEIS), and this conclusion was one of the factors that led to a change in the subsistence findings for deer. We have used the most complete information available to determine the amount of both subsistence and non-subsistence use in the Shamrock and

surrounding area and we have indicated in the FEIS that hunting by non-residents has increased on Kupreanof Island in recent years.

Comment S2-6

As mentioned in the opening of this letter, subsistence is extremely, extremely important to this community and to my family. I have a concern that the increase in accessibility to deer will result in closure of deer hunting on our island again. I have a concern that logging in the watersheds will result in silting of the rivers, and inability of remaining trees to retain water, affecting the stream habitat conditions for fish.

Response S2-6

Effects of increased accessibility on subsistence are addressed in the Subsistence section of Chapter 4 in the FEIS. This discussion indicates that increased access by non-subsistence hunters may contribute to a significant restriction of subsistence use for deer. The decisions on post-harvest access to the Shamrock area (i.e., which roads will remain open and which will be closed) will be part of the Record of Decision. The cost of the analysis and National Forest management costs are outside the scope of this analysis and decision.

The effects of the proposed harvest on streams and fish habitat are addressed at length in both the Fisheries and Watershed sections of Chapter 4 in the FEIS.

Comment S2-7

Lastly, and perhaps most importantly, we need to be saving our old-growth forests. The USFS is gnawing away at our country's old growth forests until there will be nothing left. Forestry people, of all professional people, should realize the uniqueness of old growth and quit the wholesale clearcuts of irreplaceable national treasures.

Response S2-7

We agree that old growth forests are a valuable resource that should be managed wisely. The Forest Service's mandate is to provide for multiple uses of its lands, one of which is timber production. To make timber available for the lumber industry, some logging of old-growth forest in the Tongass National Forest is necessary; and one of the major issues we are now faced with is how much timber is to be harvested and how it should be harvested (e.g. clear-cut versus group selection).

The current Tongass Land Management Plan (USDA Forest Service, 1985-1986) and the proposed revised plan (USDA Forest Service, 1991d) specify a certain amount of timber to be harvested over the next 150 years, and the amount of timber proposed to be harvested in the Shamrock Timber Sale is derived from forest-wide goals set forth in the current and revised Forest Plans. In developing the Shamrock Timber Sale EIS, we have proposed sufficient timber harvest to be consistent with the Forest Plan and have assessed the potential impact of this harvest on old-growth forests in the area.

It is our conclusion that this level of harvest will not significantly impact the extent or the functions of old-growth forest in the Shamrock area, although it does contribute to cumulative effects of harvests on Kupreanof Island. Given the constraints of terrain, soil type, and appropriate logging systems, we have where reasonably possible also prescribed alternative silviculture, such as group selection and green tree retention, instead of clearcutting. The current Forest Plan also reserves significant acreages of land in wilderness and other old growth conditions.

Comment S2-8

There is a growing frustration that even though we are provided an opportunity to speak, no one is really listening. Thank you for electing to hold an ANILCA 810 subsistence hearing and giving Kake residents opportunity to respond to the above-mentioned sales.

Response S2-8

We have tried to address each and every public comment received from the initial scoping through the response to the Shamrock DEIS Supplement. Many aspects of the Shamrock Timber Sale and EIS have incorporated these comments, and where they haven't we have presented our reasons for not doing so.

We appreciate your participation in the ANILCA 810 subsistence hearings and your effort in providing written comments.

Michael Medalen
Box 969
Petersburg, Ak.
99833
January 29, 1995

Ron Bockelman
EA Engineering, Science, & Technology
8520 154th Ave. N.E.
Redmond, Wa. 98052

RECEIVED

FEB 03 1995

re: Shamrock SDEIS

EA Engineering Science & Technology
Northwest Operations

Dear Sir:

I am a lifelong resident of Petersburg, Alaska. My family and I depend on local deer, moose, wild fowl, and fish for the protein in our diet and fish, mainly salmon, for our livelihood. I have been a U.S. taxpayer for a couple of decades.

As a citizen and a taxpayer, I must object to this sale in its entirety. It is obvious that the amount of money spent on studies, access roads, and administration costs cannot be justified in light of timber values in the area. The preferred alternative in the SDEIS predicts a negative return of \$149 per 1000 board feet of harvested timber. I'm sure that figure would even reflect a considerably less favorable return to the U.S. Treasury if the cost of the study you are doing and the many related costs the Forest Service has incurred were published. I request that all these costs and any related costs be tallied and published in the Shamrock FEIS so that the tax paying public can see what they are asked to pay for.

The arguments often used by the Forest Service to justify building more roads at a large deficit to the taxpayers, such as increased recreational access, are ludicrous in light of the large mileage of road already in existence for such a small population. The cost of the long term maintenance of these roads is high enough without adding to it.

Obviously, this proposes to become another part of the big corporate welfare program in this country that has impoverished our treasury and will have our descendents in debt for many generations.

As a salmon fisherman I view any logging activity near vital salmon streams such as Castle River, Tunehean Creek, and Keku Creek with apprehension. The Forest Service has a lousy record in regard to salmon stream protection. Sloppy logging practices and the ensuing mudslides causing siltage in critical drainages have never been of over-riding concern to the Forest Service in the past, beyond what is done to keep knowledge of them from the public. I would like assurance that there is something different being done this time that will make this impossible.

4 | Because of these concerns I would like to know why the lower drainages of Castle River, Tunehean Creek, and Keku Creek have not been included in the study area. Since logging the upper parts of these drainages can have a significant impact on the lower parts, they should be included in your study.

5 | While I am not a subsistence user in the Shamrock study area, impacts there could adversely affect my subsistence use, particularly of deer. There is very little good deer habitat in the study area. The proposed logging will reduce what habitat in there is available. That will increase deer hunting pressure in the areas my family depends on thereby reducing my chances of supplying them with meat.

I am enclosing a copy of ADF&G publication #5 "Deer and Logging: A Clear-Cut Dilemma". It contains some information your study seems to be lacking.

Sincerely,

Michael Medalen

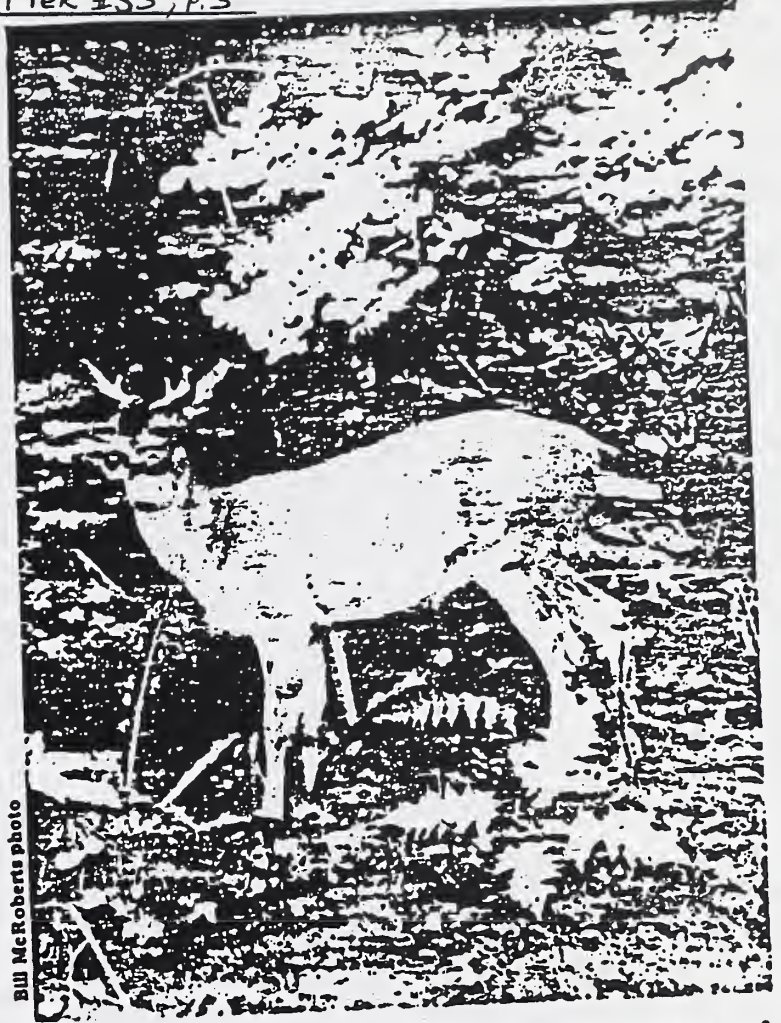
Michael Medalen
(a very concerned citizen)

ALASKA DEPARTMENT
OF FISH & GAME

DEER AND LOGGING: A CLEAR-CUT DILEMMA

WILDLIFE INFORMATION
LEAFLET NO.5
SEPTEMBER 1978

Bill McRoberts photo



For many years a controversy has existed concerning the effect of clear-cut logging on Sitka black-tailed deer habitat in southeastern Alaska. Now, recent joint studies by the Alaska Department of Fish and Game and the U.S. Forest Service Forestry Sciences Laboratory indicate that such logging practices are detrimental.

Southeastern Alaska, the northwest corner of the black-tailed deer's natural distribution, is a narrow band of land bordered on the east by rugged, snow-capped mountains and on the west by ocean. Deer habitat in the area consists primarily of temperate rain forest and, at higher elevations, alpine tundra.

For three to five months of the year the alpine area is free of snow and provides deer with abundant, high-quality forage. However, during the rest of the year deep snow forces deer into the forested areas found at lower elevations. It is there, when deep snow limits their ability to find food, that starvation takes its greatest toll on the Sitka black-tailed deer.

Deer depend on the forested regions of southeastern Alaska for two necessities for their survival. The first is forage, a mixture of vegetation which provides them with food for the winter months. The second is adequate cover from the heavy snow found even at low elevations during the winter, and which can render existing forage inaccessible to deer.

Current timber management plans for the Tongass National Forest (which covers most of southeastern

Alaska) call for clear-cutting about 18,000 acres of commercial forest land each year. This is a sustained-yield harvest level based on a 100-year rotation period for clear-cut sites.

The problem is that 100 years of forest growth following a clear-cut does not appear to satisfy the habitat requirements of southeastern Alaska's deer.

The Department of Fish and Game and U.S. Forest Service studies suggest that in southeastern Alaska deer use of regrowth forests (from one to 147 years old) during mild winters is only a fraction of that found in adjacent or nearby old-growth forests. Deer use of regrowth areas during severe winters is likely to be so little as to be almost insignificant.

Comparisons of deer use were made by counting and analyzing pellet-groups, a standard research technique. Pellet-group counts were made on 300 one-by-ten meter plots in each regrowth and adjacent old-growth study site on Admiralty and Chichagof islands during the fall of 1977 and the spring of 1978. The fall sample gave information on deer use of the areas in the summer, while the spring count dealt similarly with winter use.

The difference in deer use of these areas is thought to have two causes. First, although recently clear-cut areas produce abundant forage, it is often unavailable during the winter because of heavy snow accumulations. The second cause is the result of

SNOW COVER—Snow accumulations on Admiralty Island in late March make it difficult for deer to move around and find food in open areas such as muskegs or clearcuts.



natural growth in the even-aged forests following clear-cutting.

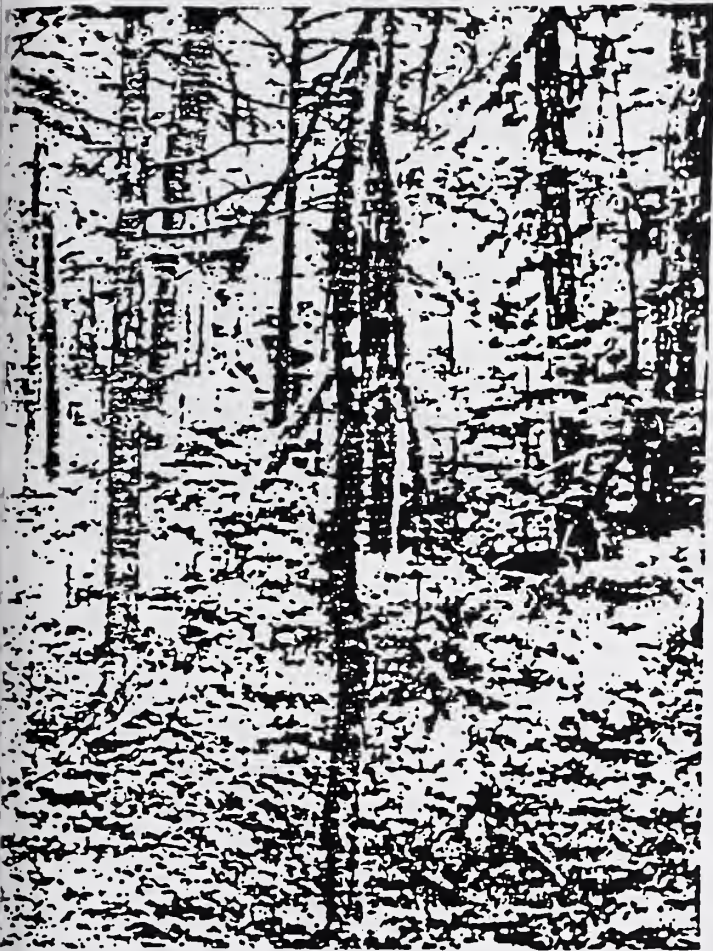
The forest canopy in even-aged regrowth timber tends to close in rapidly, shading out essential forage species within 15-20 years of the clear-cutting operation. From the time the canopy closes until well beyond the current 100-year rotation period the forest provides some protection from deep snow, but allows very little forage growth, due to the lack of sunlight under the canopy.

Old-growth (or climax) forests which are composed of trees of different ages and sizes, many of which have high, broad upper limbs which intercept a significant amount of snow. At the same time, due to the different-sized trees, blowdowns and other factors, old-growth canopies include small openings which allow the entry of sufficient light for the growth of the forest-floor vegetation used for forage. Thus, only old-growth forests seem to provide both refuge from heavy snow and enough available food to sustain deer through the critical late winter-early spring period.

In February, 1978, the U.S. Forest Service and the Alaska Department of Fish and Game co-sponsored a Sitka Black-tailed Deer Conference in Juneau. The Conference brought together about 50 individuals representing the Alaska Department of Fish and Game, the U.S. Forest Service, the U.S. Fish and Wildlife Service, the British Columbia Fish and Wildlife Branch, several timber companies, and the universities of Alaska, British Columbia,

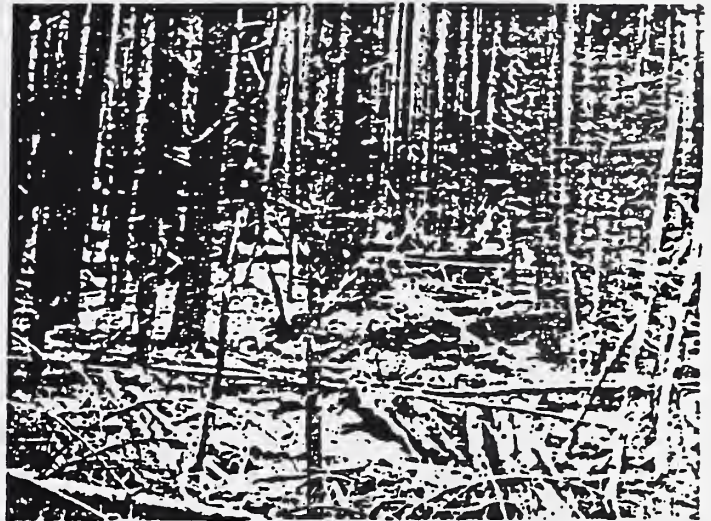


FOOD AND SHELTER—In an area with adequate forest canopy, adjacent to the scene above, a photo taken the same day shows the snowpack barely evident and forage readily accessible.



← **WINTER FOOD**—This Admiralty Island old-growth forest shows an abundance of the vegetation deer will use during the coming winter and early spring.

72 YEARS OLD—A regrowth forest in southeastern Alaska provides cover after its canopy closes, but lacks essential forage.



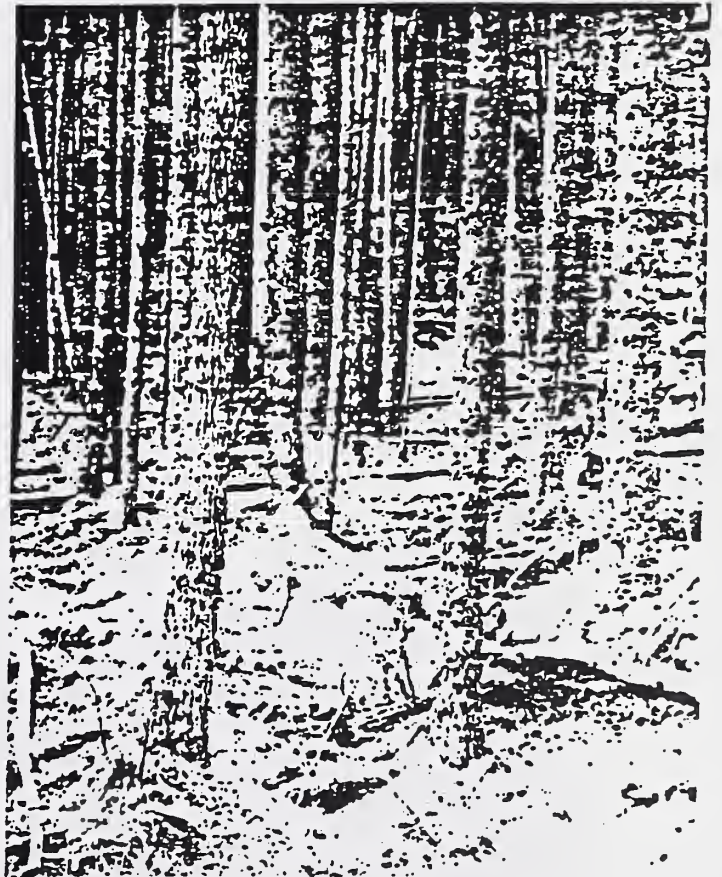
Washington and California at Berkeley. The general consensus at the conference was that despite the old generality that timber harvesting enhances deer habitat, current forest management practices in southeastern Alaska and British Columbia are permanently eliminating the uneven-aged climax forest on the northwestern coast of North America.

There are about five million acres of forest land in southeastern Alaska with commercial potential. Thirteen per cent of that is already in young (less than 150 years) regrowth stands. If the present level and method of timber harvest continues, about 50 per cent (approximately two and one-half million acres) of the best winter Sitka black-tailed deer habitat will have been affected by the time the current clear-cuts reach rotation age.

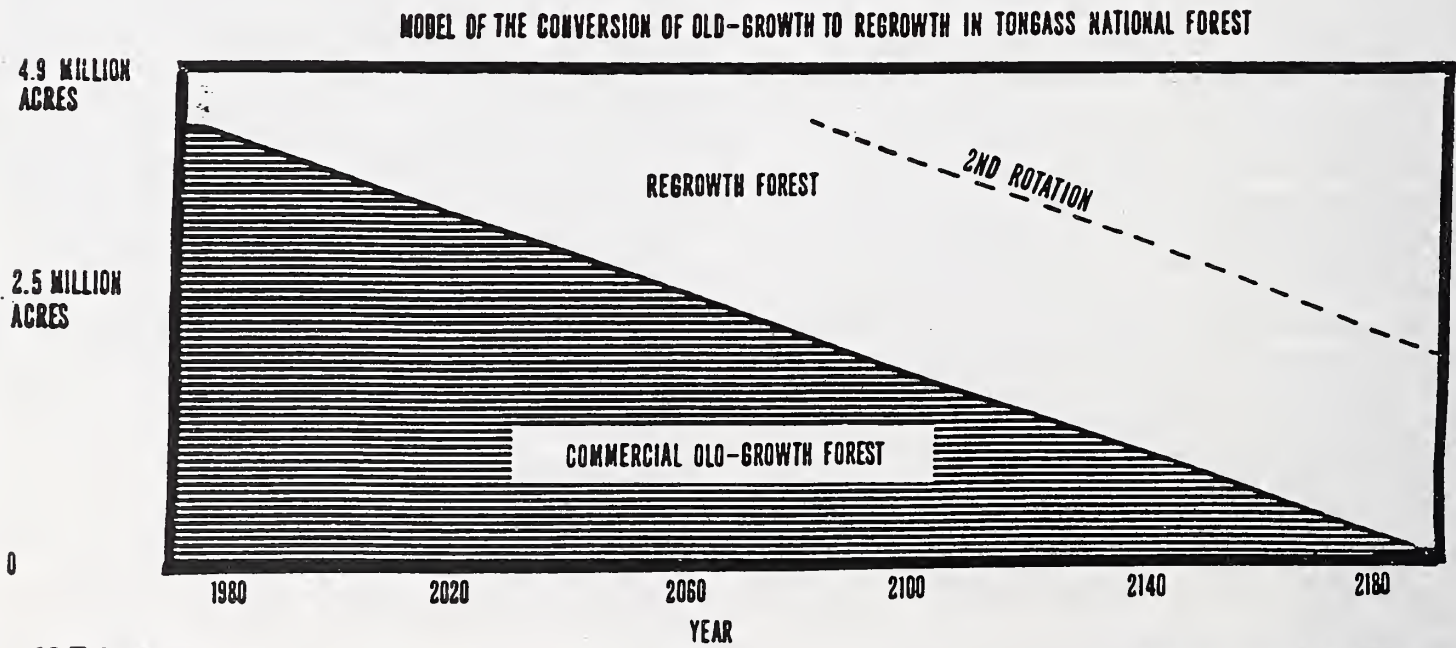
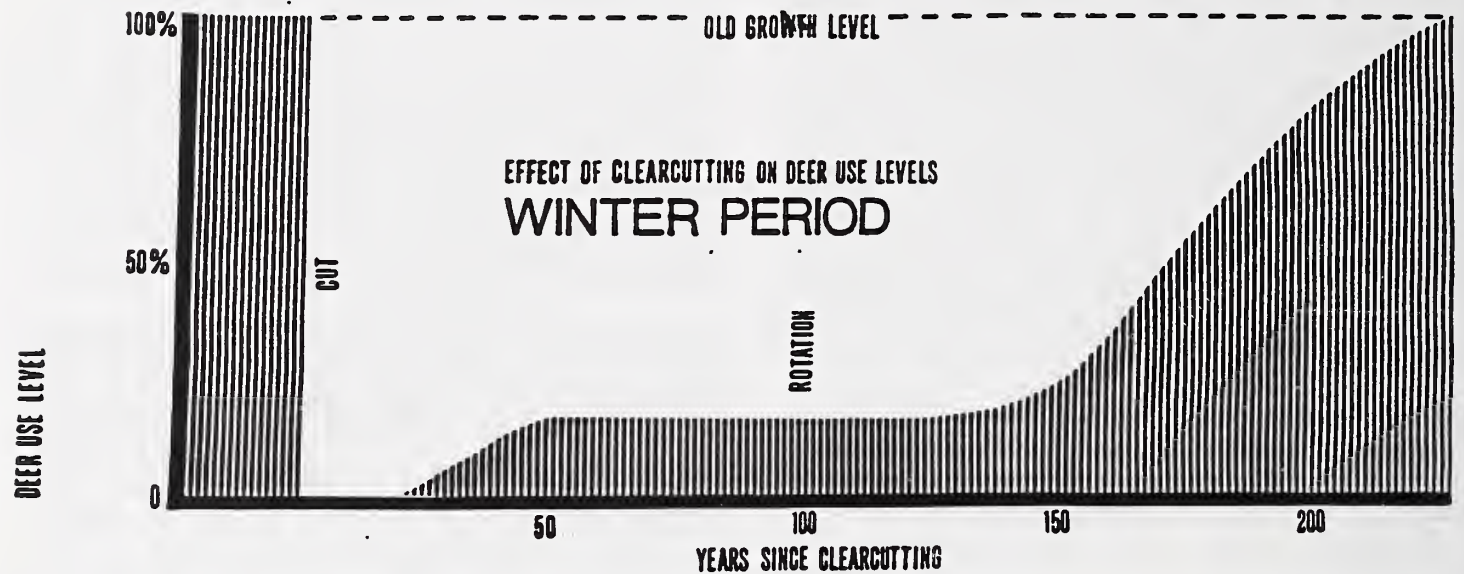
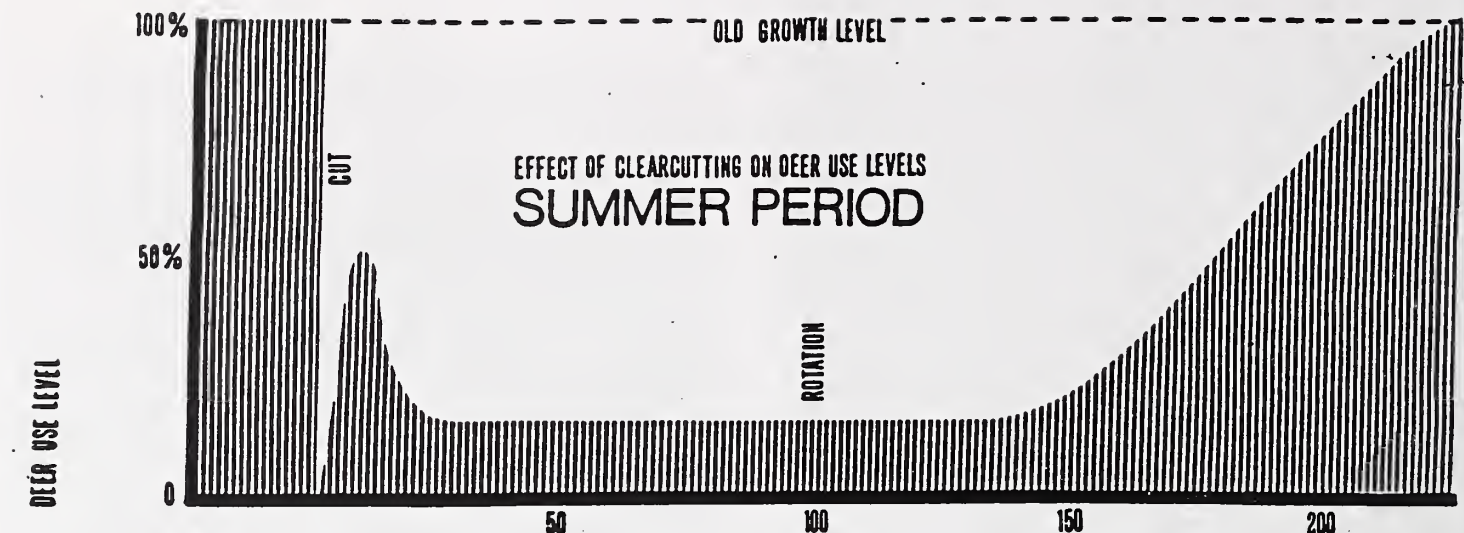
A wildlife biologist with the British Columbia Fish and Wildlife Branch commented during a discussion at the Juneau deer conference that deer harvests on most of the logged-over areas on the east coast of Vancouver Island have decreased up to 50 per cent following logging. He went on to say that in areas with known information, the harvest has declined from 80 to 85 per cent.

Of all man's land-use practices in southeast Alaska, there is no doubt that timber management has, and under present conditions will continue to have, the single greatest influence on the welfare of the areas's deer.

by Bill Woolf, Information Officer
Alaska Department of Fish and Game
Shamrock Timber Sale EIS



147 YEARS OLD—Even well beyond average rotation age, this Admiralty Island burn still lacks the vegetation that would keep deer alive through the winter.



Michael Madalen (#S3)

Comment S3-1

As a citizen and a taxpayer, I must object to this sale in its entirety. It is obvious that the amount of money spent on studies, access roads, and administration costs cannot be justified in light of timber values in the area... I request that all these costs and any related costs be tallied and published in the Shamrock FEIS so that the tax paying public can see what they are asked to pay for.

Response S3-1

As discussed in detail in the responses to comment 1-7 to the DEIS (Appendix F), the mid-market analysis for the Shamrock Timber Sale does not indicate that the Forest Service will suffer a financial loss as a result of this sale. The mid-market appraisal is a comparison among alternatives of economic efficiency using average values of timber over a ten-year period. The actual value of the timber harvested, and the profit or loss to the purchaser, would depend on prices at the time the timber was actual sold. The government is required to obtain a minimum price for each timber species or species group and does not bear the risk of fluctuating timber prices.

Road costs are included in the economic analysis presented in Chapter 4. The cost of the analysis itself and National Forest Management costs are not included in this analysis and are outside the scope of this analysis and decision.

Comment S3-2

The arguments often used by the Forest Service to justify building more roads at a large deficit to the taxpayers, such as increased recreational access, are ludicrous in light of the large mileage of road already in existence for such a small population. The cost of the long term maintenance of these roads is high enough without adding to it.

Response S3-2

The purpose of constructing roads for the Shamrock Timber Sale is to access timber. Although it is pointed out that these roads can also serve other purposes, such as recreational or subsistence access, these uses are incidental and are not used to justify construction of the roads or their costs.

Comment S3-3

As a salmon fisherman I view any logging activity near vital salmon streams such as Castle River, Tunehean Creek, and Keku Creek with apprehension. The Forest Service has a lousy record in regard to salmon stream protection. Sloppy logging practices and the ensuing mudslides causing siltage in critical drainages have never been of over-riding concern to the Forest Service in the past, beyond what is done to keep knowledge of them from the public. I would like assurance that there is something different being done this time that will make this impossible.

Response S3-3

We appreciate your concern for maintaining watershed integrity and high quality fish habitat. Although you mention that timber harvest activities on Forest Service land have previously caused damage to fisheries resources, it is difficult to respond to such comments without knowing specifically what locations you are referring to. The design of this project incorporates numerous elements that are specifically intended to reduce impacts to fisheries, including Best Management Practices in the construction of roads and stream crossings, 100 foot buffers around all Class I and most Class II streams, yarding systems that minimize disturbance to Class III streams, and minimizing the risk of mass wasting events. We feel these measures adequately protect fisheries resources from significant impacts due to the Shamrock Timber Sale.

Comment S3-4

Because of these concerns I would like to know why the lower drainages of Castle River, Tunehean Creek, and Keku Creek have not been included in the study area. Since logging the upper parts of these drainages can have a significant impact on the lower parts, they should be included in your study.

Response S3-4

The study area boundaries are determined in part by boundaries between management areas or Value Comparison Units (VCUs) and define where we look for harvest and roads. The effects of the harvest alternatives downstream of the study area in the Castle River, Tunehean Creek, and Keku Creek should be no greater than effects within the study area, since there has been no previous harvest within these watersheds and none is currently planned. These areas are included in the cumulative effects analyses for this project.

Comment S3-5

There is very little good deer habitat in the study area. The proposed logging will reduce what habitat in there is available. That will increase deer hunting pressure in the areas my family depends on thereby reducing my chances of supplying them with meat.

Response S3-5

We agree that deer habitat in the Shamrock area is not generally of high value. The reduction in carrying capacity for deer over the entire Shamrock area is expected to range from 1.6 to 3.8 percent depending on alternative. As described in the Subsistence section of Chapter 4 of the Shamrock DEIS Supplement and the FEIS, we acknowledge that this relatively small reduction will further restrict subsistence use of deer in Wildlife Analysis Area 5133.

Craig Olson
Box 1551
Petersburg AK
99833

LETTER #54

Jan 4, 1995

Dear Forest Service:

JAN 30 1995

This letter is to register
my concern over sustenance use
of deer on Kupreanof Island
specifically in the Castle River
Area. I hunted deer there
in Dec 1994 and consider it
important because it was an area
open that I didn't have to cross
a sound or strait to get to. Please
do not impact my use with timber

sincerely

CRO

Craig R. Olson

Craig Olson (#S4)

Comment S4-1

This letter is to register my concern over subsistence use of deer on Kupreanof Island, specifically in the Castle River area. I hunted deer there in Dec 1994 and consider it important because it was an area open that I didn't have to cross a sound or strait to get to. Please do not impact my use with timber cuts.

Response S4-1

We appreciate your concern about impacting deer habitat in the Castle River area. The reduction in deer carrying capacity is estimated to be between 1.6 to 3.8 percent over the entire Shamrock area depending on the alternative chosen. Although the decline in deer carrying capacity is relatively small, we recognize that this reduction will affect further restrict subsistence use of deer in Wildlife Analysis Area 5133, in which the Castle River is located.



Alaska Lumbermen's Association

FEB - 7 1995

P.O. Box 7135 Ketchikan, AK 99901 907) 247-2088 Fax: (907) 247-2682

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SERIALIZED	FILED
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FBI - KETCHIKAN	
✓	

January 30, 1995

Ron Bockelman
EA Engineering, Science, & Technology
8520 154th Avenue NE
Redmond, WA 98052

Dear Ron:

On behalf of the Alaska Lumbermen's Association, I am submitting a response for the Shamrock timber sale Supplement to the Draft Environmental Impact Statement (SDEIS). The Alaska Lumbermen's Association represents the Small Business Administration (SBA) independent timber operator interests on the Tongass National Forest. This also includes the SBA timber sale program and parallel independent timber sale program.

A few points that we feel should be addressed are as follows:

- 1 • There is not a clear enough description of allotment or reasoning behind the implementation of retention areas. These retention areas are classified as small Habitat Conservation Areas (HCA) and will range in size from 2,258 to 2,895 acres across VCU's 429, 436, and 438. This SDEIS states the removal of 48 mmbf from timber harvest potential because of an unsigned EA proposing these HCA's and a TLMP that has yet to be amended to include these HCA's. Yet the Forest Service keeps insisting that their HCA proposal is affecting no timber sale progress on the Tongass. I think that deleting 48 mmbf is definitely an affect to Tongass timber harvest volume potential. How much of these areas were at one point designated and proposed harvest sites (possibly from an old harvest unit proposal, like N. Irish) before HCA's?
- 2 • Another area that remains open to skepticism surrounds the Totem Creek goshawk nests. It would appear that as currently proposed, this nest area interferes with Unit 52 of the Shamrock timber sale area. Our concern lies with making this sale as uncontroversial as possible. It would appear to me that by adding Unit 52 to the sale area, the contracting company would have to deal with (1) building an extra 2 miles of permanent road and 3/4 miles of temporary road, (2) crossing an additional class II stream, and (3) all the environmental and political controversy and appeals that may occur should a company harvest this unit. Our recommendation, above and beyond the fact that the Alaska Department of Fish and Game has classified this raptor as un-threatened by their standards, is that this Unit 52 be reviewed and possibly removed for said reasons.?
- 3 • We would also like to know what the original volume count was between the Shamrock and North Irish Sale areas before they were combined? In other words, how much pipeline money was spent preparing these are two sale areas and then how much more was spent to combine and issue an SDEIS on the Shamrock timber sale area?
- 4 • We feel that a breakdown of timber classes found throughout the sale area would be favorable to those reviewing this SDEIS. Your analysis of the Upper Totem creek goshawk nest area shows a supply of

4 | class 4 or higher timber so I can only assume that you have some idea as to the class of timber found throughout the remaining sale areas.

5 | • If there is such a concern about hunters gaining too much accessibility to certain areas, then perhaps you would be correct in stating that certain roads in WAA 5130 and 5133 should be closed to recreational usage. We must clarify which roads would be closed (mainlines, spurs) and in what fashion that those roads would be closed (waterbars, gates, recycling of road rock for other road building purposes). Additionally, an analysis of those groups of individuals affected by both road closure and road accessibility should be conducted.

6 | • I feel that you have proved, by your subsistence analysis, that subsistence will not be a major issue in this timber sale area. These unit layouts are inland and even with sport hunters access to interior acreage, coastline subsistence users should not be adversely affected. Since ADF&G allows for no more than 22.3% reduction in habitat capability from what exists now, your estimated minimal decline in habitat figures of .6% to 1.4% should make subsistence a non issue.

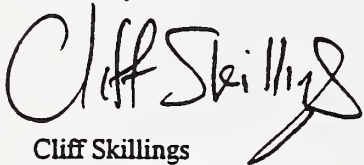
7 | These are the concerns that we have concerning the Shamrock timber sale analysis. We feel that this sale should be expedited and classified an SBA timber sale due to lack of SBA timber pipeline volume and the Forest Service historical inability to meet SBA operator demand in a timely and productive manner. For these reasons, the Alaska Lumbermen's Association would recommend the implementation of Alternative 2. This alternative offers the most benefit to the timber industry and surrounding communities while contributing minimal harm to habitat capability. Your report stated that the highest reduction in habitat capability for the Shamrock area would be 1.4% while the ADF&G asks for no more than 22.3% reduction in habitat capability. Furthermore, this alternative offers the best possible means for experimenting with new logging methods as stated by your 158 acres of partial cut. The Forest Service could use these areas for select cutting or testing grounds for different means of timber harvest. The helicopter acreage involved could also have a percentage used for select cutting or managed cut of 10 inch or greater.

Citing the socioeconomic benefits to Southeast Alaska. Alternative 2 generates more jobs in surrounding communities (538), higher regional income (\$17.9 million), and adds the highest income contribution to the Gross National Product.

With these stated, we would once again recommend adoption of Alternative 2 with one alteration, that being the elimination of the potentially controversial Unit 52.

Thank you for the opportunity to respond to the Shamrock timber sale SDEIS.

Sincerely,



Cliff Skillings
Executive Director

cc: Phil Janik, Regional Forester
Fred Walk, Regional Timber Officer
Abigail Kimball, Forest Supervisor, Stikine District
Patricia Grantham, District Ranger, PRD

Cliff Skillings, Alaska Lumbermen's Association (#S5)

Comment S5-1

There is not a clear enough description of allotment or reasoning behind the implementation of retention areas...the Forest Service keeps insisting that their HCA proposal is affecting no timber sale progress on the Tongass. I think that deleting 48 mmbf is definitely an affect to Tongass timber harvest volume potential. How much of these areas were at one point designated and proposed harvest sites (possibly from an old harvest unit proposal, like N. Irish) before HCA's?

Response S5-1

The areas you refer to are retention areas, or areas to be maintained as old growth for the life of the project, which are intended to meet retention requirements of the current TLMP. They have been delineated, however, to be consistent with the requirements for small Habitat Conservation Areas (HCAs) as part of a strategy to maintain viable populations of wildlife in the Tongass National Forest (Suring et al., 1992). Although this strategy has not been adopted, there is a distinct possibility that a strategy like it will become incorporated into the upcoming revised TLMP. By designing retention areas to meet criteria for small HCAs, the Shamrock Timber Sale will be consistent with such a revised TLMP and therefore should not be subject to reanalysis regarding retention if and when an HCA strategy becomes part of the revised TLMP. As can be determined from the volume of timber harvest proposed for the sale, the designation of these retention areas did not prevent the Shamrock Timber Sale from meeting its stated purpose and need.

Some proposed harvest units that were in the North Irish Timber Sale and in some alternatives of the North Irish Timber Sale Reoffer areas were located in retention area 429a. The Forest Service decided not to harvest these units prior to the designation of retention areas for the Shamrock Timber Sale

Comment S5-2

Another area that remains open to skepticism surrounds the Totem Creek goshawk nests. It would appear that as currently proposed, this nest area interferes with Unit 52 of the Shamrock timber sale area. Our concern lies with making this sale as uncontroversial as possible... Our recommendation, above and beyond the fact that the Alaska Department of Fish and Game has classified this raptor as un-threatened by their standards, is that this Unit 52 be reviewed and possibly removed for said reasons.

Response S5-2

Unit 52 is not affected by application of the Interim Guidelines for Goshawk Habitat Management and should therefore not in itself make the sale controversial. Harvesting of Unit 52 (which is not part of the preferred alternative) would retain more than enough timber Volume Class 4 or greater to meet Interim Guideline requirements for a circular 6,000 acre foraging area around the nest.

Comment S5-3

We would also like to know what the original volume count was between the Shamrock and North Irish Sale areas before they were combined? In other words, how much pipeline money was spent preparing these two sale areas and then how much more was spent to combine and issue an SDEIS on the Shamrock timber sale area?

Response S5-3

The original volume associated with the North Irish Sale was approximately 47 million board feet. Alternatives contained in the proposed Shamrock Timber Sale ranges from 0 to 54 million board feet. The amount of pipeline money spent

preparing these two sales is determined by Congress and the programmatic expenditures of these monies can be obtained from the annual TSPIRS report.

Comment S5-4

We feel that a breakdown of timber classes found throughout the sale area would be favorable to those viewing this SDEIS.

Response S5-4

A breakdown of timber classes in the Shamrock area is shown in Table 3-1 and in Figure 3-3 in both the DEIS and the FEIS.

Comment S5-5

If there is such a concern about hunters gaining too much accessibility to certain areas, then perhaps you would be correct in stating that certain roads in WAA 5130 and 5133 should be closed to recreational usage. We must clarify which roads would be closed...and in what fashion that those roads would be closed... Additionally, an analysis of those groups of individuals affected by both road closure and road accessibility should be conducted.

Response S5-5

A description of which roads are planned to be closed and the types of actions taken to close roads are presented in Appendix B of the FEIS. We recognize that leaving roads open after the sale will increase accessibility to the area by both subsistence and recreational users and that conflicts may arise over use of the area by these two groups. A final decision about which roads to close and which to leave open will be made in the Record of Decision. An analysis of the conflicts arising due to increased access into the area is presented in the subsistence section of Chapter 4 in the DEIS, the DEIS Supplement, and the FEIS.

Comment S5-6

I feel that you have proved, by your subsistence analysis, that subsistence will not be a major issue in this timber sale area. These unit layouts are inland and even with sport hunters access to interior acreage, coastline subsistence users should not be adversely affected. Since ADF&G allows for no more than 22.3% reduction in habitat capability from what exists now, your estimated minimal decline in habitat figures of .6% to 1.4% should make subsistence a non issue.

Response S5-6

The decline in deer carrying capacity due to timber harvest within the Shamrock area is estimated to be between 1.6 and 3.8 percent, depending upon alternative. Since hunter demand currently exceeds deer population carrying capacity in WAA 5133, resulting in a significant restriction of subsistence use for deer prior to any timber harvest, it can be concluded that even a relatively small decline in deer population capacity will further restrict subsistence use of deer. This finding is described in detail in the subsistence section of Chapter 4 of the DEIS Supplement and the FEIS.

Comment S5-7

We feel that this sale should be expedited and classified an SBA timber sale due to lack of SBA timber pipeline volume and the Forest Service historical inability to meet SBA operator demand in a timely and productive manner. For these reasons, the Alaska Lumbermen's Association would recommend the implementation of Alternative 2.

Response S5-7

Comment noted.

The SBA set aside program is outside the scope of this project level analysis. At this time, no determination has been made as to whether this will be a small business set aside sale. The Forest Service meets with the Small Business Administration on an annual basis to determine small business set aside sales.

KP Ketchikan Pulp Company

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RECEIVED
JAN 30 1995

January 30, 1995

Abigail Kimbell, Forest Supervisor
USDA Forest Service
Stikine Area - Tongass National Forest
Post Office Box 309
Petersburg, Alaska 99833

Re: Shamrock Timber Sale DRAFT ENVIRONMENTAL IMPACT STATEMENT

Dear Ms. Kimbell:

Thank you for the opportunity to comment on the Shamrock Timber Sale(s) DEIS. Following are Ketchikan Pulp Company's comments:

1. The Forest Service should strive to meet or exceed the proposed volume of 40 MMBF. The Tongass Timber Reform Act of 1990 requires the Forest Service to "seek to meet" the harvest capacity installed on the Tongass. Currently that capacity is between 400 and 600 MMBF per year. In 1994 the Forest Service only released 280 MMBF, far short of the volume required. Alternative #2 would go further to meet the installed capacity than the Forest Service preferred alternative is #5.

2. Economics should be a major consideration in designing timber sales to assure volume is realistically available to the timber industry and to avoid a below cost situation for the Forest Service. The Forest Service preferred alternative will provide 155 fewer jobs, \$5.1 million less in regional income and \$9.8 million less in income contribution to the GNP than would alternative #2.

3. The effected environment in the Shamrock Timber Sale Area only shows a small change between the Forest Service preferred alternative and alternative #2. The most noticeable difference being the 5 miles of eligible river affected by timber harvest in alternative #2. The units in alternative #2 effecting the proposed Wild and Scenic River are located up near the head of the river system. All of the maps showing the different types of activities in the Shamrock Timber Sale Area show very little activity in any of the areas proposed to be Wild and Scenic. With 90% of the Tongass preserved for wilderness values including wildlife habitat and only 10% remaining to support the people and families living in the Tongass do we really need one more Congressionally protected stream?

Thank you for the opportunity to comment.

Sincerely,



Kent P. Nicholson
Contract Manager

KPN:ts

OPERATING DIVISIONS

WARD COVE PULP MILL
THORNE BAY LOG

KETCHIKAN SAWMILL
TUXEKAN LOG
NAUKATI LOG

ANNETTE HEMLOCK SAWMILL
EL CAPITAN LOG

Kent P. Nicholson, Ketchikan Pulp Company (#S6)

Comment S6-1

The Forest Service should strive to meet or exceed the proposed volume of 40 MMBF... Alternative #2 would go further to meet the installed (harvest) capacity than the Forest Service preferred alternative #5.

Response S6-1

Alternative 5, the Forest Service preferred alternative, would provide 39 MMBF of net sawlog volume or 44 MMBF of net sawlog plus utility volume. Although Alternative 2 would provide a greater volume of timber, the Forest Service believes that Alternative 5 provides the best balance of timber production and resource protection.

Comment S6-2

Economics should be a major consideration in designing timber sales to assure volume is realistically available to the timber industry and to avoid a below cost situation for the Forest Service. The Forest Service preferred alternative will provide 155 fewer jobs, \$5.1 million less in regional income and \$9.8 million less in income contribution to the GNP than would alternative #2.

Response S6-2

Economics was one consideration in designing the Shamrock Timber Sale. The mid-market appraisal, which provides an economic comparison among alternatives, showed that Alternative 5 was slightly less economical than Alternative 2, but other analyses showed that impacts to other resources (e.g., biodiversity, fisheries, watersheds), would be greater for Alternative 2. Again, the balance of all resource concerns was considered in selecting the preferred alternative.

Comment S6-3

The effected environment in the Shamrock Timber Sale Area only shows a small change between the Forest Service preferred alternative and alternative #2. The most noticeable difference being the 5 miles of eligible river affected by timber harvest in alternative #2... With 90% of the Tongass preserved for wilderness values including wildlife habitat and only 10% remaining to support the people and families living in the Tongass do we really need one more Congressionally protected stream?

Response S6-3

There are numerous differences between Alternatives 2 and 5 in their impacts to the affected environment. The effects on eligibility of the Castle River and Tunehean Creek for designation as Wild and Scenic Rivers were one consideration among several that led to the selection of Alternative 5 rather than Alternative 2. Since the designation of a stream as Wild or Scenic is a congressional decision, your questions regarding the number of Wild or Scenic rivers on the Tongass National Forest are more appropriately directed to members of Congress.

NARROWS CONSERVATION COALITION

P.O. Box 2130, Petersburg, Ak. 99833

January 30, 1995

Ron Bockelman
EA Engineering, Science, & Technology
8520 154th Avenue N.E.
Redmond, Wa. 98052

RECEIVED
JAN 30 1995

re: Shamrock SDEIS Comments

Dear Ron:

The following comments are submitted on behalf of Narrows Conservation Coalition (NCC) and the Southeast Alaska Conservation Council (SEACC) for the Shamrock Supplemental Draft Environmental Impact Statement (SDEIS). NCC is a public interest conservation group of approximately 75 members, based in Petersburg, Alaska. Since 1984 we have been a member group of the Southeast Alaska Conservation Council, a regionwide coalition of 15 groups and 12 Southeast Alaska communities. NCC and SEACC have a significant interest in your proposed activity. Our members regularly engage in recreation, tourism, and subsistence, commercial, and sport harvest of fish and game in the study area.

The following comments are in addition to issues NCC previously raised in our review of the Shamrock Draft Environmental Impact Statement, October 18, 1993. For this reason we request that all public comments be printed in the Final EIS (FEIS) and that each and every concern expressed and question asked in those letters be specifically and individually responded to in the document, in a section set aside for that purpose.

Purpose and Need

The Stated "Purpose" of the Project is Flawed:

As we have previously stated, the project's purpose of meeting "the goals and objectives for timber supply established in the Forest Plan and the Forest Plan Revision" are flawed. The current Tongass Land Management Plan (TLMP) was promulgated prior to passage of the Tongass Timber Reform Act (TTRA). Although TTRA requires significant reforms in forestry on the Tongass, several years later TLMP has yet to be amended or revised to accomplish those reforms. TLMP is therefore not controlling in areas of management that were reformed by the Act. Since the Act places hard constraints on management of the forest, it must be relied upon directly in planning at the project level.

Specifically, TTRA precludes the Forest Service from applying the LUD IV prescription because by its definition LUD IV management is "intensive resource use and development where emphasis is primarily on commodity or market resources." The LUD IV designation is inconsistent with TTRA Section 101.

In presenting the Conference Report on this Act on the floor of the U.S. House of Representatives, Representative George Miller, chief architect of the TTRA, elaborated on the purpose of the TTRA when he sought House agreement on the TTRA's Conference Report. In reference to Section 101 of the TTRA, amending Section 705(a) of ANILCA, Congressman Miller states:

"This language requires the Forest Service to meet the needs of resource based industries other than timber--including commercial fishing, sport hunting[,] sport fishing, and tourism--and provide for non-commodity uses of forest resources for subsistence and recreation.." (See Congressional Record, October 26, 1990, p. 12833.)

Therefore, basing the Purpose of the project on intensive management is wholly inappropriate, and no LUD IV management should have been considered in the project area, despite the outdated TLMP designations.

Regarding scheduling, a Region-10 environmental analysis now before the public for review discusses the issue of TLMP scheduling with great clarity:

"The current Forest Plan does not require timber harvest or other projects to be implemented anywhere on the Tongass National Forest; the land allocations authorizing timber harvest in various areas of the Forest are *permissive not mandatory*. (Tenakee Springs et al. v. Block et al.). " See Draft EA for the TLMP Amendment, Interim Habitat Management Guidelines for Maintaining Well-Distributed Viable Wildlife Populations within the Tongass NF, September 1994, p. 2, (emphasis added).

For each of the above reasons, the Purpose of the project has been misdirected from the outset and is clearly inconsistent with existing law. It predisposes the planning team and decision maker to fail to "rigorously explore and objectively evaluate all reasonable alternatives." Such thorough and objective evaluation is required by 40 CFR 1502.14, and it is very apparent from discussions throughout the DEIS and SDEIS that the misdirected purpose will indeed cause the decision maker to fail this most basic requirement of NEPA.

The DEIS and SDEIS are therefore fatally flawed at the most basic level.

The Stated "Needs" of the Project are Flawed:

The DEIS and SDEIS identifies three needs for the project:

2 The first alleged Need, implementing TLMP direction for logging in the Project Area, is dispelled by the above argument that TLMP "does not require timber harvest to be implemented" and that TLMP land allocations are "permissive not mandatory." Logging can only take place where and to the extent consistent with providing for the multiple use and sustained yield of all renewable resources, under TTRA.

Therefore, the stated Need for the project, which the planning team and decision maker consider to be a controlling cause for accepting the project's impacts, is based on perceived constraints on the decision maker that simply do not exist.

3 The second alleged Need, that of helping meet market demand for timber, is not an obligation at the project level or for a given Project Area. Seeking to meet market demand is a Tongass-wide undertaking, and reliance on a particular Project Area to contribute timber toward satisfaction of the demand is a matter of choice by the Forest Service, not one of necessity. Therefore, helping meet market demand was improperly included in the DEIS and SDEIS as a need. This mistaken Need predisposes the planning team and decision maker to consider selection of the action alternatives to be a necessity, and is most likely a key reason that the preferred alternative is not the least impacting action alternative. In addition, your analysis has so far, failed to discuss TTRA limitations. Please do not fail to discuss these vitally important limitations in the Shamrock FEIS.

4 In addition, a critical "need" intimately related to seeking to meet market demand is not mentioned at all in the DEIS or SDEIS discussion of Purpose and Need. TTRA Section 101 establishes that satisfaction of market demand for timber is a need that is subordinate to the necessity of compliance with other applicable law and the necessity of providing for the multiple use and sustained yield of all renewable resources. Under the law on this forest, satisfaction of market demand is therefore a soft requirement. TTRA gives it the lowest priority. In contrast, the Purpose and Need gives contribution toward satisfying market demand a priority so high that other legal requirements and resource considerations were only mentioned. (DEIS 1-1).

The analysis presented so far has erred by considering the "seek to meet market demand argument" to be a "need" without also considering "the other needs" that are superior under the law of this forest.

5 The third alleged Need is to move toward a "desired future condition" in the Project Area that replaces the existing productive old-growth forest with second growth. This desired future condition has been specified by the Forest Service for the Tongass generally, but was not intended to lay uniformly across the land. TLMP instead contemplates management that varies from place to place or project to project on the Tongass, based on all manner of considerations. Going beyond this, however, a desired future condition that in large part converts the productive forest old-growth of the Tongass to second growth is inherently, based on best available scientific information, in sharp conflict with the renewable resource protection provision of TTRA

Section 101.

Statements made in the DEIS seriously call into question a "desired future condition" in the Shamrock area that replaces "one hundred percent of the suitable forest land... in the next 30 to 50 years" with second growth. Similar statements included in the SDEIS are likewise troubling: i.e. "with the "current and proposed management direction, successive timber harvesting over the next 30 to 50 years, 100% of all suitable forest land in the area may be harvested [emphasis added] (DEIS 4-14); the area may be close to the threshold for a sharp decrease in species diversity (DEIS 4-41); and it is not known how species diversity would respond to further fragmentation caused by harvesting." (DEIS 4-41).

5 Just as land allocations authorizing timber harvest in various areas of the Tongass are permissive not mandatory (See Tenakee Springs v. Block), any policy included in TLMP to move toward the desired future condition is, at the project level, permissive not mandatory. Furthermore, the ability of the Forest Service to move toward its stated desired future condition in any particular area is necessarily tied to the process of seeking to meet market demand for timber. As explained above, meeting market demand has a subordinate priority to renewable resource considerations. Logging and roading activities and their long term effects are inconsistent with providing for well established, prevalent multiple uses of the Shamrock study area. The greatest Need is therefore to "provide for the multiple use and sustained yield of all renewable resources" in the Project Area. See TTRA Sec. 101.

The DEIS and SDEIS erred in not listing as a "Need" providing for the multiple use and sustained yield of all renewable resources. This is especially true since the sharply conflicting, and therefore subordinate, need to seek to meet market demand was listed. As soon as the Purpose and Need was adopted in a form that inverted the superior/subordinate relationship of the two needs, the Forest Service violated 40 CFR 1502.2 (f) which prohibits resources from being committed prior to making a final decision. The purpose and need prejudices against or actually precludes selection of the No-Action Alternative, and thereby commits the decision maker to selecting one of the alternatives that commits resources.

6 As a result, 40 CFR 1502.2 (g) (EIS'S shall not be used to justify decisions already made) was also violated by the DEIS and SDEIS. The Shamrock EIS's serve de facto, as a justification for a basic decision that has already been made and is put forth in the Purpose and Need, rather than serving as a means of assessing environmental impact toward the end of informed decision making.

The circumstances resulting in the above alleged violations of 1502.2 (f) and (g) also cause a violation of 1501.1 (a full and fair discussion of impacts is required). The predisposition or premature decision to select one of the action alternatives interferes with the ability to "provide a full and fair discussion of significant environmental impacts."

We therefore request that these fundamental flaws be corrected in the analysis for this project.

The Purpose and Need Has Dictated Rather than Guided the Project:

Nowhere in the DEIS or SDEIS is there a comprehensive discussion or rigorous analysis of applicable laws, regulations and policies as they relate to the Purpose and Need and the individual alternatives. This lack of a solid legal framework is confusing to the planning team, the decision maker, and the public.

7 Although scattered references to various laws occur throughout the DEIS and SDEIS the references are piecemeal and demonstrate a lack of rigorous, or even in some cases rudimentary analysis. For example all or nearly all references to TTRA Sec 101 rely solely on its seek to meet market demand language, while completely ignoring Sec. 101's hard constraint that this must be consistent with providing for the multiple use and sustained yield of all renewable forest resources. This is a failure of analysis at the most basic level and must be corrected for this project to proceed one step further.

NEPA Requirements To Consider This Proposed Action and the Proposed Douglas Sale in the Same EIS:

An underlying Purpose and Need of the Shamrock Timber Sale is to link the Shamrock Timber Sale road system with that of the Douglas Timber Sale road system thereby providing roaded access to the southern portions of Kupreanof Island.

8 The Forest Service first began public scoping for the Douglas Timber sale on October 19, 1992. Public comments were accepted until November 27, 1992. As stated in the Purpose and Need statement included in the scoping letter provided to the public on that date; "The purpose of this project is to harvest timber and develop the long-term transportation system for National Forest administration using guidance in TLMP; the transportation management objective is to have an interconnected road system to this area from Kake; the transportation objective is for the road system to connect with the planned road system for the Shamrock Study Area and eventually connect to Kake." (emphasis added). As later analyzed in the Shamrock SDEIS, the proposed "road system" will link to Kake.

The Organized Village of Kake appealed the Record of Decision for the North Irish Timber Sale Reoffer (NIR) and as a result, the NIR Decision Notice was withdrawn on January 21, 1994. Because the Shamrock road system depended on the North Irish Road System to transport logs to salt water, the two sales had "connected actions." It was these connected actions that in large part resulted in the withdrawal of the Forest Supervisors decision.

As a result, the Forest Service decided to analyze the two actions (Shamrock and

North Irish) in one EIS as 40 CFR 1502.4(a) requires. One unit and an associated road segment of the North Irish Timber Sale were incorporated into the Shamrock SDEIS. The associated impacts of the two sales were considered together, rather than piecemeal in the revised Shamrock SDEIS.

The Forest Service put the Douglas Sale "on hold" via the Federal Register last year. Although there was no discussion as to the reason for this course of action, it is noteworthy that the project is simply "on hold" - not canceled. We suspect that the Forest Service anticipated similar conflicts associated with connected actions for the Douglas and Shamrock Sales as those of the North Irish and Shamrock Sales.

As noted in the North Irish Reoffer EA (at p.1), one of the primary "purposes and needs, for this project is to provide access for future management activities by developing the road system from Kake," The EA indicated two NIR alternatives (3 & 4) that proposed constructing a road (FDR 6314) which would "serve as the planned mainline access to the southern portions of Kupreanof Island and the proposed Shamrock and Douglas Timber Sales."

Not only does the Purpose and Need statement for the Douglas Sale indicate that the two sales are indeed connected if an "interconnected road system to this area from Kake," is intended, but when overlaying maps of similar scale in the Shamrock SDEIS and the Douglas scoping map, it is apparent that the two proposed road systems come extremely close - if not connected. In fact, Shamrock Action Alternative #4 which includes Unit # 52, along the mainline road system appear to connect with the Douglas road system! The Shamrock DEIS claims that "Alt. 5 (the preferred alternative) would construct Road 6314, 1.5 miles short of a *potential link (emphasis added)* to a road system that connects with the southern portion of Kupreanof Island." (Shamrock DEIS 2-19). However the analysis fails to point out that under Alternative 4 the two road systems actually appear to connect.

The CEQ regulations require that proposals, or parts of a proposal which are related to each other closely enough to be, in effect, a "single course of action," must be evaluated in a single EIS. [40 CFR 1502.4(a)]. The CEQ regulations also define the appropriate scope of actions which should be covered in an EIS. To determine the proper scope of an EIS, the agency must consider "connected actions," which means actions that are closely related and should therefore be discussed in the same EIS. Under 40 CFR 1508.25 (a)(1)(iii) actions are connected if they "[a]re interdependent parts of a larger action and depend on the larger action for their justification."

It is quite apparent from these statements that the intent from the outset, has been to build an inter-connecting road system for all of the Douglas/Shamrock Area and link it with Kake.

It is too late for the Forest Service to renege on the planning process already begun for the Douglas Sale. Although the Douglas Sale is "on hold" the project has not been

8 canceled and it appears that the Forest Service is simply waiting for what they perceive to be the correct timing to begin this project again and evaded their responsibility under federal law to evaluate these connected actions in one EIS. We know of no correct timing, and urge the FS to conduct the proper analysis in one EIS. Statements included in the Shamrock SDEIS indicate analysis is indeed proceeding on the Douglas EIS despite official action to the contrary; i.e. "The same hunter demand figures are being used by the Forest Service for the Douglas timber sale EIS." (SDEIS 4-16).

Because the planning team has simply put the Douglas Sale on hold and did not cancel it, nor offer any timeline for when it will proceed with a process already begun, the Forest Service must consider both the Shamrock and Douglas Sales together.

Clearcutting as Optimal Means of Harvest

9 As a legitimate multiple use, recreation, wildlife, fisheries and aesthetics stand equal to timber harvest on non-wilderness lands. The Forest Service's responsibility to treat multiple use resources of the Tongass as controlling, co-equal factors in forest management is required by both NFMA and the TTRA. The NFMA restricts the Forest Service use of even-aged logging practices to where exceptional circumstances are satisfied--ie., only when clearcutting is insured to be consistent with the protection of all the forest's natural resources. See 16 U.S.C. sec. 1604(g)(3)(F)(v). The monoculture created by the level proposed clearcutting in the project area and adjacent lands is contrary to NFMA-mandated biodiversity. See 16 U.S.C. Sec. 1604(g)(3)(B).

The SDEIS indicates that clearcutting is the primary means of harvest for the Shamrock project. Clearcut acres account for over 95% or 1,849 (including NI 9) acres in the project area, versus 5% or 100 acres are slated for partial cutting. The SDEIS should include a discussion on the merits of clearcutting in relation to the Alaska Regional Guide, and the former Chief's policy on ecosystem management. The "certain conditions" referred to in the DEIS (at 4-5) in support of clearcutting as the optimal means must be disclosed in the EIS and shown to be consistent with the Chief's policy on ecosystem management and the Alaska Regional Guide.

Falldown and Its Potential Impact On Productivity

0 In the EIS for the Shamrock project, the Forest Service is required to disclose and discuss "the relationship between the local short-term uses of man's environment and the maintenance and enhancement of long-term productivity." 42 U.S.C. Sec. 4332 (2) (c) (iv). This requirement is intended to "fulfill the responsibilities of each generation as trustee of the environment for succeeding generations." 42 U.S.C. Sec. 4331 (b) (1). Thus, in the context of the Shamrock timber sale, the Forest service must disclose and evaluate the effects of logging and roading (i.e., the short-term uses) on the long term productivity of all renewable forest resources, including timber, fish, and wildlife.

Under applicable law, however, the Forest Service must take an additional step. The agency must use the long-term effects analysis to determine whether the logging and roading is consistent with the sustained yield off all renewable forest resources as required under the Tongass Timber reform Act, and must ensure that the timber to be cut does not exceed the volume that could be sustainably cut in perpetuity as mandated by the National Forest Management Act. Accordingly, the substantive requirements of the TTRA and NFMA give direction to the procedural requirements of NFMA.

10 In fact, several troubling statements contained in the DEIS strongly suggest that the short-term uses of the project area (timber harvest and roading) will lead to severe impacts on long-term productivity; for instance:

"With the current and proposed management direction successive timber harvesting over the next 30 - 50 years would convert 26,000 acres of the Shamrock land into discrete even aged stands. This represents 100% of the suitable forest land. (DEIS 4-14),

"It is possible that given the existing naturally high level of fragmentation, the area may be closer to the threshold for a sharp decrease in species diversity." (DEIS 4-41).

11 Consideration of "falldown" (i.e., the difference between the actual timber volume in the project area and the estimated volume) is essential to an informed and meaningful discussion of the potential long-term effects of the Shamrock Project, and to the ultimate determination regarding sustainability. Specifically, if the volume of timber cut is based on an inflated estimate regarding volume availability, there would be inadequate timber retention to maintain the long-term productivity of the area. Consequently, future timber supply, available wildlife habitat, and the entire forest ecosystem would be severely impacted. In turn, the long-term social and economic interests of the communities that rely upon forest resources in the area would be harmed.

It is well established that falldown is a recurrent problem on the Tongass. Several recent reports have documented falldown rates in excess of 20% on the Tongass. For example, the Irland Group, a consulting firm retained by the Forest Service, determined that falldown forest-wide averages 25%. Most recently, the issue of falldown arose in the planning process for the Central Prince of Wales timber sale, where the agency's own planning team determined falldown to be approximately 50%!

Despite ample evidence that significant falldown occurs on the Tongass, there is absolutely no indication that the proposed volumes for the Shamrock Timber Sale have yet been subjected to a falldown analysis. In the Shamrock DEIS, the skeletal analysis of the long-term productivity effects of short-term logging in the project area

contains no discussion of how falldown might impact long-term productivity. (DEIS 4-95). Indeed falldown is not discussed anywhere in the DEIS or SDEIS. Please do not fail to discuss this issue in the next EIS for this sale.

Any failure to discuss or analyze the effect of falldown on long-term productivity constitutes a failure to address "an important aspect of the problem" which would render a decision to proceed with the Shamrock project "arbitrary and capricious." See Motor Vehicle Mfgs. Ass'n v. State Farm Mutual Auto. Ins. Co., 463 U.S. 29, 43 (1983). It is high time for the Forest Service to stop sweeping the falldown issue under the rug, and misleading both the decisionmaker and the public about the long-term effects of logging on the Tongass.

The Shamrock SDEIS Violates Title VII of ANILCA (Subsistence)

As we stated in our DEIS comments, we are particularly concerned that only two years after subsistence hunters can once again return to their traditional hunting grounds, your agency proposes another, in a series, of huge timber sales. Had subsistence use been a consideration, timber harvest would have been deferred to other areas less important to subsistence users.

The 1993 Shamrock DEIS erroneously concluded the actions proposed in Alternatives 2 through 5 "will not significantly restrict subsistence use of deer." (DEIS 4-62). However, following subsistence hearings in October, 1993 and a "revised analysis methodology," the Supplemental DEIS concluded a "significant restriction for subsistence use of deer may result in both WAA 5130 and 5133 due to increased access and competition, regardless of which action alternative is chosen." (SDEIS 4-21). It further concluded there may be a significant restriction of deer due to decreases in abundance in WAA 5133 (SDEIS 4-19).

According to the SDEIS (at 4-17) the "habitat capability in WAA 5133 has already been exceeded by hunter demand, and the habitat capability in WAA 5130 is not likely to be exceeded in the near future. These results were one of the primary reasons for revising the subsistence findings for deer."

So the primary question here is whether it is OK to further impact subsistence deer hunters within the project area. Considering the "fragile nature of the deer population on Kupreanof Island" (SDEIS 4-12) we find it unconscionable to further impact the deer population.

Several factors mentioned in the SDEIS suggest that cumulative impacts from restrictions on other areas of the Tongass, may further exacerbate the subsistence findings. Such factors include the revelation (at 4-18) that hunters on south Admiralty currently harvest deer at rates higher than considered sustainable by ADF&G recommendations, and the acknowledgement that private lands around Kake, directly north of the project area, have been heavily impacted making the Shamrock area

13 more valuable for subsistence hunters. The SDEIS goes on further to acknowledge that convenient access (ferry and an extensive road system) can increase access and competition from non-resident and/or non-subsistence hunters from Ketchikan, Juneau or elsewhere. Juneau and Ketchikan sport hunters are not currently restricted from harvesting deer in the project area, and until ADF&G restricts sport hunters, they will continue to compete with subsistence hunters. The SDEIS implied that these sport hunters are currently prohibited from deer hunting on Kupreanof. The SDEIS finally acknowledges that hunters from nearby communities would prefer to shift their deer hunting to Kupreanof Island. (SDEIS 4-18). In light of all these admissions and a new subsistence finding Forest Service should select the No-Action Alternative as the Preferred Alternative. However, there was absolutely no change in the proposed road configuration, unit selection, or selection of a Preferred Alternative from the 1993 DEIS to the 1994 SDEIS!

14 In Section 801 of ANILCA, Congress enunciates a definite national policy goal that customary and traditional lifestyles of rural Alaskans are to be afforded significant respect and protected whenever possible. Section 801 states that, "consistent with sound management principles, and the conservation of healthy populations of fish and wildlife, the utilization of the public lands in Alaska is to cause the least adverse impact possible on rural residents who depend upon subsistence resources of such lands." 16 U.S.C. sec. 3112(1). Further Sec. 801 (a) (3) cites three determinations that must be made by the head of a Federal agency whose actions would significantly restrict subsistence uses. These determinations are: (1) that the significant restriction is necessary and consistent with sound management principals; (2) that the proposed activity is will involve the minimal amount of public land necessary; and (3) that reasonable steps will be taken to minimize adverse imp[acts upon subsistence uses and resources.

The SDEIS failed to Demonstrate That Proposed Logging of the Shamrock Area, Where a Subsistence Restriction Already Exists, Is Necessary

15 Any further restriction is not "necessary" under ANILCA Section 810 (a) (3) (A). None of the various laws, plans and guides cited in the either EIS require the Forest Service to offer any particular amount of timber through independent timber sales. Thus, any further restriction of subsistence uses is not necessary, because the Forest Service is not required to sell timber.

16 The purpose of a timber sale EIS on the Tongass should be to identify the alternative with the least possible adverse impact on subsistence. The Forest Service has so far been unable to select an alternative which has the least possible adverse impact on subsistence because it failed to meaningfully design and consider an alternative which could satisfy that purpose. The choice of the selected alternative over alternatives with less impact demonstrates the lack of priority given to subsistence in agency planning efforts. This alternative selection issue is overshadowed, however, by the Forest Service's failure to meaningfully consider subsistence needs at the stage

of the planning process when the critical pre-NEPA decision to clearcut 50 mmbf plus from the project area was made.

16 The making of the "necessary" determination in the SDEIS is shallow, unsupported by the record, and arbitrary and capricious. The SDEIS "necessary" determination speaks of no alternatives "that would avoid a significant possibility of subsistence restrictions somewhere in the forest." No such alternatives were studied in detail in the DEIS or SDEIS. As of yet, there has been no forest-wide cumulative subsistence impact analysis conducted on the Tongass.

17 Since the initiation of the Shamrock Timber Sale, the contract with APC has been canceled, the Sitka and Wrangell mills have closed, and any unstated but previously perceived demand to supply timber to APC no longer exists. Regardless, the Shamrock sale is intended for independent operators. In the DEIS and SDEIS the Forest Service justifies the need for the sale with the vague and open-ended phrase "seek to meet market demand." The market demand argument is not valid, and as discussed earlier the Interim Habitat Management Guidelines for Maintaining Well-Distributed Viable Wildlife Populations within the Tongass NF, September 1994, states:

"The current Forest Plan *does not require timber harvest* or other projects to be implemented anywhere on the Tongass National Forest; the land allocations authorizing timber harvest in various areas of the Forest are *permissive not mandatory*. (Tenakee Springs et al. v. Block et al.). " See Draft EA for the TLMP Amendment, p. 2, (emphasis added).

18 In the absence of a legitimate need to log in the Shamrock area, it is patently unnecessary to further restrict subsistence uses in the Shamrock Area. Traditional and customary use of fish and wildlife resources in the Shamrock Area is critically important to the residents of the island and nearby communities and is particularly important to the Tlingit and Haida cultures. Kake residents will be forced to utilize the project area for their subsistence needs because their own lands have already been heavily harvested of timber, and the closing of the second growth forest canopy will eliminate the forbes and herbs required for maintenance of deer populations. None of these cumulative effects have been adequately addressed in the DEIS or SDEIS.

The SDEIS Preferred Alternative fails to Use the Minimal Amount of Public Land to Meet the Purpose and Need of the Project.

19 Subsistence use is the priority use of forest resources under ANILCA. To ensure that this priority status is adhered to, the Forest Service must utilize the minimum amount of public land necessary to achieve the purpose and need of the project. In the SDEIS, the Forest Service concludes there may be a significant restriction of the subsistence use of Sitka Blacktail deer in the project area under any alternative. Based on that finding, the Forest Service has concluded that it is free to select any alternative

because all alternatives would give rise to further restrictions on the subsistence use of deer.

19 That logic is fatally flawed. First, the Forest Service must go one step further and determine which of the alternatives would have the least impact on subsistence use of deer than the selected alternative, and would require less land, as would alternative 1, the no-action alternative. In addition, selection of the no-action may otherwise be reasonable, in which case it would constitute the minimum land use. Thus, the selection of Alternative 5 violates ANILCA. Second, the selected alternative does not use "the minimal amount of public lands necessary" to accomplish the timber sale, as required by ANILCA Section 810 (a) (3) (B). In fact, to the contrary, the Forest Supervisor selected the action alternative with the largest amount of affected land. The selected alternative will cut 1,949 acres, while the least impacting Action Alternative 3 will cut 1,176 acres and the no-action alternative impacted zero acres. Although Action Alternative 2, proposes to cut 2,702 acres, it is not a viable alternative since logging related activities are illegally proposed in the eligible wild and scenic river corridor of Castle River. Thus, the selected alternative does not use the minimal amount of public lands, but rather uses the maximum amount. For the same reason, the selected alternative does not "minimize adverse impacts" as required by Section 810 (a) (3) (C). This violates ANILCA.

In addition, subsistence hearings conducted in response to the DEIS and DSEIS have weighed heavily in favor of maintaining environmental quality. With this in mind, it is unreasonable that an alternative which fulfills the purpose and need of the project and was the environmentally preferred action alternative, was not chosen

The finding in the SDEIS that the Preferred Alternative involves the minimal amount of public lands is likewise arbitrary and capricious. We agree with the Forest Service that "[c]onversion of old-growth forest into second-growth forest affects habitat capability for deer and other old-growth dependent species wherever it occurs on the Tongass...." The result from this practice of even-aged management on the subsistence users and resources is contrary to both NFMA and ANILCA.

The Forest Service's interpretation of Section 810's minimal amount of public lands requirement is also inconsistent with that statute's purpose and structure. The only way the Forest Service can satisfy Section 810's purpose of "protect[ing] Alaskan subsistence resources from unnecessary destruction," [Amoco Production Company v. Village of Gambell. 480 U.S. 531, 544 (1987)], is to evaluate which public lands are relatively more important for rural villages and then minimize timber development activities on those lands. The Forest Service simply failed to do so in this SDEIS.

The SDEIS Preferred Alternative Fails to Minimize Subsistence Restrictions

20 Likewise, the Forest Service has so far failed to follow Section 810(a)(3)(C)'s directive to take "reasonable steps to minimize adverse impacts upon subsistence uses and

20 resources resulting from its actions." Compliance with this provision requires at least consideration of minimization measures by alternative. Although the FEIS recites that general standards and guidelines and management prescriptions will be Implemented, it does not discuss their implementation by alternative, by community use area, or in any other meaningful way.

21 Although the SDEIS suggests that "closing roads 45803 and 45804, and other roads, after harvesting would be likely to reduce hunter demand in WAA 5133." (SDEIS 4-21) it does not go one step further in actually recommending such closures. Although such measures may be partially effective in discouraging access, we note similar closures on Mitkof Island do little to prevent access by hunters using ATV's. A better remedy would be not to build the roads at all.

22 If the proposed action alternatives indeed meet the perceived Purpose and Need of the Project, then why wasn't at a minimum, the least impacting action alternative chosen?

23 Finally, reasonable steps to minimize restrictions should include deletion of all clearcut units in the highest value deer winter range on south facing slopes. Specifically, deletion of units 10, 23, 24, 43, 55, and 81 are in order. Review of the Shamrock unit cards reveals that all these units are located in deer winter range habitat yet the Forest Service justifies clearcutting in important deer winter range with a boilerplate comment that the conflict is not mitigated since "adequate habitat exists elsewhere." Since there is "no suitable deer winter range" in the project area, and "90% of the analysis area is unfavorable or unsuitable" (SDEIS 4-18) we would like to know exactly where "adequate habitat" exists?

24 We question the finding that NI Unit 9 has no wildlife concerns (ie goshawk and deer). For instance, as stated in the DEIS (at 3-12) "variation in deer winter range suitability within the Shamrock Area is primarily due to elevation and aspect." Although the Unit card states there are no wildlife concerns for this unit, it is impossible for the public to evaluate the accuracy of that statement since no topographic lines were included in the various maps in the EIS. The description of the unit in the SDEIS claims that it is located on the "south side of Big John Creek Valley" (SDEIS 2-2). No elevation is given for the North Irish Unit. Please include topographic lines for on the Unit card as well as the alternative maps to better enable the public to evaluate the accuracy of information contained in the FEIS.

The Board of the Alaska Dept. of Fish & Game recently unanimously resolved that TLMP should be revised to protect forests with high volume old-growth to the extent necessary to provide for the long-term maintenance of harvestable wildlife populations. In this resolution, the Board recognized that Sitka Black-tailed deer are the most important subsistence wildlife species for the residents of Alaska, and that viable populations of this species are dependent upon diverse high-volume old-growth stands. The Department's resolution also stated that current forest practices

preclude regeneration of old-growth forests. (See Resolution of the Alaska Board of Game, adopted March 1993).

25 Other species of wildlife found in the area of the proposed sale are also utilized for subsistence purposes. Black bear, marten, moose and Canada Geese are among the many other species which area residents depend for their subsistence needs. The cumulative impact on these species will reduce habitat capabilities over the forest rotation. The cumulative impact from past, present, and planned timber cutting on national forest and private lands is not adequately assessed in the DEIS or SDEIS.

26 The findings in the SDEIS concerning the significant impacts on subsistence fish resources are highly questionable. Recent research being done by Forest Service scientists indicates the need to re-examine cumulative impacts at the watershed-level. The PACFISH recommendations propose 300 foot interim buffers along all salmon streams until each watershed is looked at independently. The need for such a macro-assessment of impacts to watersheds is particularly relevant to the Shamrock project area because potential for temperature related die-offs. Given the past history of temperature related mass fish die-offs in Castle River, the claim that the amount of logging approved for the Shamrock project area will not cause a significant impact to fishery resources is unfounded. In fact, a recent FS "Assessment of Contractor Prepared Timber Sales on the Tongass" indicated that EA contractors felt the FS "soft-pedaled" the issue of temperature sensitivity of streams in the Shamrock area.

27 The agency's failure to comply with the Area Analysis process prescribed for timber sales in the 1985-86 TLMP Amendment precludes affected subsistence users from even learning the extent of subsistence impacts from all planned activities on Kupreanof Island. This failure to follow existing forest-wide management direction makes the SDEIS conclusion that this decision "is consistent with sound management of public lands" arbitrary. The very reason for preparation of, and adherence to, forest plans prepared pursuant to the NFMA is to assure that all forest resources are managed in a scientifically sound, ecologically credible, and legally responsible manner. The SDEIS reveals the sad truth that such management does not exist on the Tongass.

28 The implicit reliance on draft conclusions stated in the TLMP Revision SDEIS, without disclosing and responding to critiques of that analysis violates NEPA. As pointed out by the Ninth Circuit in *Tenakee Springs v. Clough*, 915 F.2d 1308, 1313 (9th Cir. 1990)(*Tenakee II*), modified on other grounds, *City of Tenakee Springs v. Franzel*, 960 F.2d 776 (1992)(*Tenakee III*), "[the TLMP EIS] could not have contained any analysis of the cumulative impact on subsistence within the requirements of ANILCA, since they were both drafted before ANILCA became effective." Thus, the agency is unable to tier to or incorporate any valid cumulative impact analysis for subsistence resources or users affected by this decision. The lack of such an analysis makes this project decision unlawful.

Timber Sale Economics

29 According to the SDEIS the preferred alternative will return a negative \$149 per thousand board feet of timber harvested. This works out to a deficit to the U.S. Treasury and taxpayer of -\$6.5 million dollars. When the cost of this contractor prepared timber sale is included, purchaser road credits, Regional Office timber costs, Washington office costs, payments to the State, and the true cost of the "temporary seaplane float" on Irish Lake, the deficit nature of this timber sale must be staggering! Please disclose in your next Shamrock EIS an estimate of all the above costs to the U.S. Taxpayer. What ever happen to the mandate imposed by President Clinton to end all deficit timber sales on National Forests? In this era of Newt Gingrich and sweeping, nationwide deficit reductions it would seem this timber sale would be one of the first candidates to end up in the hopper. Not only is the U.S. Taxpayer losing money, but they are PAYING the timber industry to destroy valuable habitat, fishing, subsistence, tourism and recreation opportunities.

Habitat Conservation Area Strategy and Retention

Although your analysis came a long way from the previous analysis by designating retention areas, we were disappointed that your analysis did not adopt the recently proposed Habitat Conservation Area (HCA) Strategy. While we have been in continual disagreement with the Forest Service over the permanency of retention areas, we believe adoption of the HCA strategy offers the most permanent protection for maintaining viable wildlife populations in the project area.

30 NCC previously submitted comments November 9, 1994 to Regional Forester Janik on the Forest Service's recent Environmental Assessment (EA) for their proposed TLMP amendment to develop a Habitat Conservation Area (HCA) strategy. In those comments we noted that the public should have some assurance that mapped retention areas would remain unchanged. Also, retention must be factored into Allowable Sale Quantity and similar calculations since it's omission could result in over-estimating the operable and available timber supply on the Tongass.

We additionally requested that:

1. No logging or road building occur in high Volume Class 6 & 7 old growth (ie. 30 MMBF) below 800 feet elevation.
2. No logging or road building or salvage sales should occur in HCA's.
3. No logging or road building in the three largest old-growth blocks in each of the Tongass 21 "ecological provinces".
4. No clearcutting or road building in a one-half to one mile buffer around all mapped HCA's.
5. Provide 1,600 foot wide no-cut migration corridors between large HCA's, 1000 foot-wide corridors between medium HCA's. Corridors should be kept below 800 in

elevation. No clearcutting within 3,300 feet of the coastline; selective logging only.
 6. No logging in "wildlife retention" areas mapped under the present TLMP.
 7. For new timber sales, the total acres cut in Volume Class 5 must not exceed total acres cut in Volume Class 4.

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We are unable to evaluate if the proposed retention strategy meets the above requests which are consistent with the VIAPOPS Strategy. Please disclose this information. We call into question the claim in the SDEIS (4-7) that proposed Wild and Scenic rivers function in linking the seven small HCA's to each other and medium HCA's. Their designation as Wild and Scenic Rivers is only potential and cannot be relied upon to serve as migration corridors. In fact, your analysis includes one alternative which illegally proposes to clearcut in the eligible corridors!

We also commented that the spacing requirements were not met between the Petersburg Creek - Duncan large HCA 23 and Castle River medium HCA 68. Movement of the Castle River HCA may affect alternatives in the Shamrock Analysis.

Goshawks

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All goshawks nests, whether discovered in 1993 or 1994 should receive the same full interim protections. Application of different strategies depending on the year of nest discovery is arbitrary and not based on the best available science (and would be laughable if the potential consequences were not so serious!). The USFWS has consistently criticized the Forest Service 1993 Interim Guidelines for Goshawk Management as being inadequate for goshawk protection with recommendations for improved guidelines as well as better pre-project surveys. As stated in VIAPOPS Alternative 3 the logical approach, "will keep even more options open for the development of a more comprehensive goshawk conservation strategy than VIAPOPS Alternative 2, and will also contribute to avoiding the need for listing under the Endangered Species Act," because it "offers the greatest likelihood that viable goshawk populations can be maintained." The guidelines as set forth in Alternative 3 of the VIAPOPS Strategy should be adopted for this sale.

Landless Natives

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Senator Frank Murkowski introduced a bill to Congress last fall entitled the "Landless Native Land Allocation Act of 1994." Contrary to it's title, the bill reads more like legislation intended for the timber industry. If passed the bill will authorize logging and road building in numerous roadless areas on the Tongass. Many of the areas potentially affected include those set aside under the 1990 Tongass Timber Reform Act.

The bill provides for the formation of five new Native corporations in Southeast Alaska. Areas potentially impacted include Farragut, Rocky Pass, Bay of Pillars, and Anan to name but a few.

As currently written, this bill would:

- 1) Withdraw for 5 years all Tongass lands designated "LUD II" (roadless) by the Forest Service as a base for land selections by these corporations,
- 2) Entitle each new "landless village corporation" to select land from this base, more than doubling the acreage currently held by the Southeast Native corporations,
- 3) Require the corporations to sell timber from the selected lands to the Ketchikan Pulp Company or another Alaska mill,
- 4) Exempt road access to selected lands from public review under the National Environmental Policy Act. These roads could cross designated Wilderness areas in order to reach selected lands.

Selected areas could be closed to public hunting. There will be no requirement that corporations select lands near their communities. Once selected, these lands would no longer be subject to sustained yield requirements and the public review process that currently apply to Tongass forestlands. Logging on these private lands will be governed by the State Forest Practices Act which offers less protection than federal laws.

The Forest Service has relied, in large part, on designated Wilderness and LUD II Areas to satisfy certain attributes of the of the proposed HCA strategy. If these areas are selected by the Native corporations, the HCA strategy will be rendered moot.

We request that the FS planning team and their contractors be kept abreast of developments in the bill language when it is reintroduced to Congress this year. If Murkowski succeeds in passing this bill, reliance of the Shamrock analysis on the Rocky Pass area to satisfy requirements of a medium HCA will no longer be valid. Please disclose and analyze effects of the Landless Bill on the Shamrock analysis.

Access and Potential Overharvest of Fish in Project Area

According to the EIS, Irish Lakes support populations of cutthroat trout and Kokanee salmon (landlocked sockeye). Kokanee salmon are particularly unique in Southeast Alaska and cutthroat populations are noted to be a "species of concern" which are very sensitive to overfishing as well as other impacts. The Shamrock EIS claims that "A major cumulative effect of these sales is to increase the public access to fishing in the Shamrock area, increasing the potential for overharvest of fish." (SDEIS 4-33). Although the FS suggests that specific management regulations are available to prevent overfishing (SDEIS 4-35) no restrictions are recommended.

Serious mitigation must be considered before adoption of a final EIS. While the Forest Service cannot enforce State hunting regulations, they can require their contractors

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and agency personnel to transport personal fishing and hunting gear via private transportation. Such mitigation would reduce or eliminate potential overharvest from the one user group that has the most direct and convenient access to fish and game resources in the project area.

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Another possible action to minimize impacts on fish resources in the Project Area would be the implementation of the PACFISH strategy. This strategy would establish wider buffers (and wildlife migration corridors) along streams and provide greater protection to fisheries values in streams until the system had been fully evaluated on a site specific basis.

Of particular concern is a reported "temporary" seaplane float which the FS has already constructed and transported to the area. We understand that this temporary float amounted to considerable expense - in the high six-digit (or more) range - due to design flaws and problems in transporting the structure to the lake via helicopter. Additionally, the structure was reported to have broken up in the lake with float debris scattered around the lake.

We must protest this action for several reasons:

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1. The sensitive and unique nature of fish stocks in Irish Lakes,
2. The lack of public notification concerning a decision to locate a float in Irish Lakes, and apparent in-house decision that the project was not significant and required no Environmental Analysis,
3. The eligible wild and scenic status of Irish Lakes and requirement that the outstandingly remarkable values of the system not be degraded prior to a final determination of the suitability of the wild and scenic rivers system,
4. The reportedly high cost of the project, including construction, redesign, transportation, and clean-up, and administration,
5. The establishment of a private "seaplane" float available to only agency and contractor personnel,
6. The location of a FS "temporary administrative site" (cabin) at the Lake.
7. The location of a seaplane float and FS cabin at Irish Lake significantly increases the the likelihood of overfishing due to convenient access. Similar "convenient access" was cited as a reason subsistence restrictions for deer in the project area would be exacerbated.

Please disclose and explain the above factors surrounding the decision to locate a temporary seaplane float in Irish Lakes. This disclosure should include all costs related to constructing, redesigning, transporting, and cleaning up float debris around the Lake. The costs of this fiasco are directly related to the economic analysis contained in the EIS and should not be dismissed as outside the scope of the project. We request that the float be removed until a thorough and proper analysis is conducted and the suitability of the river in the wild and scenic river system is finally determined.

Inadequate Public Notice of SDEIS Violates NFMA

NCC previously requested an extension of the comment period for the SDEIS due to inadequate public notice for the document. (See NCC Letter to Abigail Kimbell, January 4, 1995). The basis for this request was the unlawful notice period of 45 days instead of 60 days per NFMA and the Alaska Regional Guide regulations, due to the inclusion of units over 100 acres in the SDEIS. The SDEIS included an additional unit (North Irish Unit 9) that exceeded to 100-acre size limitation for clearcuts on the Tongass. The lack of adequate public notice was confounded by a "mixup" concerning the FS incomplete mailing of the SDEIS which they admitted to in a postcard apology postmarked December 22, 1994.

36 Despite the request for a prompt written reply, the Forest Supervisor responded on January 23, 1995, only one week prior to the end of the comment period, and denied our request. (See Forest Supervisors letter to NCC, January 23, 1995). This denial is in error however, and continues to violate NFMA and the Regional Guide. The Forest Supervisor's based her denial on the interpretation that the DEIS, and SDEIS and FEIS considered together have/will meet the 60-day notice requirements! This interpretation is incorrect. If such an interpretation were applied to any EIS's subject to NFMA Regulations, then all Draft, Supplemental, and Final EIS's could be given only one notice period!

We know of at least two individuals that did not receive a copy of the Shamrock SDEIS and/or the postcard apology. Regardless, individuals in outlying areas (directly affected by this timber sale), with neither phone, regular mail service, or the ability to either "stop by the Petersburg District office and pick one up, ...call,... or write for a copy," may have been harmed by the mixup. The Forest Supervisor's "assumption" that all interested publics had received copies of the SDEIS is incorrect and not based on the facts. NCC and SEACC members are severely harmed by this unlawful action. Given the FS's inability to correctly notify all interested parties (i.e. inadequate notice and the "mixup" concerning the mailings) it is unconscionable and illegal that our request was denied.

North Irish Reoffer Bucked and Felled Timber

37 Although outside the Study Area, previous units included in the North Irish Timber Sale Reoffer (which NI 9 was a part of) were previously felled and bucked, however have not been yarded from the units and sold. According to FS personnel (pers. comm.) the volume currently laying on the ground in the North Irish Reoffer Project Area amounts to about 200 -300 mbf. Since part of the justification to reoffer the North Irish Timber Sale was to "facilitate the determination and collection of timber sale contract damages owed to the government (FSH 2409.15 and 2409.18)" (North Irish Reoffer Environmental Assessment, p. 1). We wonder why the Petersburg Ranger District FS has not proceed with plans to recoup their losses. Additionally, we fear that due to the length of time the FS has taken to recoup such losses, the logs may have

rotted to the extent that much of their timber value has been lost. Exactly what is the condition of the logs remaining on the ground?

37 Numerous small independent operators on the Tongass are in need of volumes of timber such as could be supplied with these bucked and felled units. We get the impression that the FS is so busy preparing huge timber sales and with extensive road systems for administrative purposes, that the "caring for the land and serving the people" ethic has been all but forgotten. This is particularly alarming since various other "salvage sales" have been recently proposed for Mitkof Island (See Stikine Area Project Schedule, Winter 1994), and other huge sales are planned for the Petersburg Ranger District. Although the FS may claim that this issue is "outside the scope of the analysis" we disagree. The Forest Service should make every attempt to yard this timber since it will not only reduce the FS perceived "market demand" and lessen impacts in the Shamrock project area but also utilize a resource that would have been much more beneficial to the forest if left standing.

If a decision is made not to respond to this important issue in this analysis (due the claim that it is "outside the scope") please do so in a separate letter.

We urge the Forest Service to meaningfully respond to all issues raised in these comments and correct all fatal flaws in the analysis of this timber sale.

Sincerely,

Rebecca Knight

Rebecca Knight

for

Narrows Conservation Coalition

Southeast Alaska Conservation Council

* Addendum included on next page.

1/30/95

LETTER # 57, P. 21

SEACC/NCC addendum to the Shamrock SDEIS comment
re: Landless Native legislation and Subsistence

38

Senator Murkowski is poised to reintroduce the Landless legislation to Congress at any time. This reasonably foreseeable action has severe subsistence implications. If history is any guide, selected lands will be closed to public hunting, fishing, tourism, and subsistence, and extensively clearcut within 20 years. This will create another boom and bust timber cycle while at the same time devastating those areas most important to Southeast Alaskans - both Native and non-Native - for fish, wildlife, recreation, and subsistence. The Shamrock analysis must consider and disclose the effects of the Landless legislation on these uses. ~~The~~ Shamrock lands will become especially important for subsistence users from Kake, Kupreanof, and ~~Perry~~ Petersburg, as areas such as Rocky Pass, Bay of Pillars, and Farragut Bay are clearcut. Please disclose the effects of this legislation on the economy, especially in relation to subsistence.

Sincerely -
Rebecca Knight

Narrows Conservation Coalition (#S7)

Comment S7-1

As we have previously stated, the project's purpose of meeting "the goals and objectives for timber supply established in the Forest Plan and the Forest Plan Revision" are flawed... The LUD IV designation is inconsistent with TTRA Section 101... Therefore, basing the Purpose of the project on intensive management is wholly inappropriate, and no LUD IV management should have been considered in the project area, despite the outdated TLMP designations... The Purpose of the project has been misdirected from the outset and is clearly inconsistent with existing law. It predisposes the planning team and decision maker to fail to "rigorously explore and objectively evaluate all reasonable alternatives."

Response S7-1

The description of the purpose and need for this project has been clarified. The purpose and need for the project is to meet the objectives of the Forest Plan by providing raw materials necessary to maintain a timber industry in Southeast Alaska. This is a primary goal of the Tongass Land Management Plan as amended in 1985-86 and 1993.

This project also contributes to meeting direction in the Tongass Timber Reform Act. Section 101 of this Act directed the Secretary of Agriculture to "the extent consistent with providing for multiple use and sustained yield of all renewable forest resources, seek to provide a supply of timber from the Tongass National Forest which (1) meets the annual market demand for timber from such forest and (2) meets the market demand from such forest for each planning cycle."

Current inventories of timber volume suggest that up to approximately 54 million board feet of timber can be harvested from the project area while meeting all of the standards and guidelines for timber harvest set forth in the Forest Plan. In addition to the current Forest Plan, this project will be designed as much as possible to conform to standards and guidelines being considered for the revised Forest Plan. The standards and guidelines of the Forest Plan, along with the land allocations in the Forest Plan, provide the mechanism for assuring that sustainability and multiple uses are provided for.

The Tongass Timber Reform Act does not preclude application of the LUD IV prescription as your comments assert. In fact, the Land Use Designations are critical to meeting the multiple use and sustained yield requirements set forth in the National Forest Management Act and reaffirmed in the Tongass Timber Reform Act. Section 101 of TTRA is intended to apply to the Forest as a whole, not necessarily to each specific part of the Forest individually. It is this same section of the Act that you cite that also requires the Forest Service to seek to meet market demand for timber. Taken as a whole, it is through the different Land Use Designations, applied across the Forest, that the Tongass National Forest is able to provide for the multiple uses of the Forest.

Comment S7-2

The DEIS and SDEIS identifies three needs for the project: The first alleged Need, implementing TLMP direction for logging in the Project Area, is dispelled by the above argument that TLMP "does not require timber harvest to be implemented" and that TLMP land allocations are "permissive not mandatory"...Therefore, the stated Need for the project, which the planning team and decision maker consider to be a controlling cause for accepting the project's impacts, is based on perceived constraints on the decision maker that simply do not exist.

The second alleged Need, that of helping meet market demand for timber, is not an obligation at the project level or for a given Project Area. Seeking to meet market demand is a Tongass-wide undertaking, and reliance on a particular Project Area to contribute timber toward satisfaction of the demand is a matter of choice by the Forest Service, not one of necessity. Therefore, helping meet market demand was improperly included in the DEIS and SDEIS as a need.

Response S7-2

You are correct that the Forest Plan does not require timber harvest on any specific location at a particular point in time. However, an examination of the management area direction for the project area clearly shows that this activity is both permitted and anticipated in the Forest Plan. The goals of the Forest Plan and the direction in TTRA do convey an intent to harvest timber from within the Forest. The agency has some latitude to select when and where that harvest will occur. The Sale Action Plans which are developed and updated regularly document how individual projects, such as the Shamrock Timber Sale, contribute to a program of timber harvest that meets the goals of the Forest Plan and TTRA direction.

Comment S7-3

...your analysis has so far, failed to discuss TTRA limitations. Please do not fail to discuss these vitally important limitations in the Shamrock FEIS.

Response S7-3

In regard to TTRA limitations, we are not sure what limitations you are referring to. Limitations stemming from Section 101 of TTRA are discussed at length in this response. Other limitations, such as 100 foot stream buffers, are incorporated into the design of the Shamrock Timber Sale.

Comment S7-4

In addition, a critical "need" intimately related to seeking to meet market demand is not mentioned at all in the DEIS or SDEIS discussion of Purpose and Need. TTRA Section 101 establishes that satisfaction of market demand for timber is a need that is subordinate to the necessity of compliance with other applicable law and the necessity of providing for the multiple use and sustained yield of all renewable resources.

Response S7-4

We agree with your assertion that meeting market demand is a need that is subordinate to the necessity to comply with other laws. Consistency with Forest Plan (and therefore NFMA), TTRA, ANILCA, and other laws, executive orders and regulations are discussed in the EIS.

Comment S7-5

The third alleged Need is to move toward a "desire(d) future condition" in the Project Area that replaces the existing productive old-growth forest with second growth. ...a desired future condition that in large part converts the productive forest old-growth of the Tongass to second growth is inherently, based on best available scientific information, in sharp conflict with the renewable resource protection provision of TTRA Section 101.

Statements made in the DEIS seriously call into question a "desired future condition" in the Shamrock area that replaces "one hundred percent of the suitable forest land...in the next 30 to 50 years" with second growth. Similar statements included in the SDEIS are likewise troubling:

Logging and roading activities and their long term effects are inconsistent with providing for well established, prevalent multiple uses of the Shamrock study area. The greatest Need is therefore to "provide for the multiple use and sustained yield of all renewable resources" in the Project Area. See TTRA Sec. 101.

The DEIS and SDEIS erred in not listing as a "Need" providing for the multiple use and sustained yield of all renewable resources.

Response S7-5

You state that the description of the "desired future condition" that replaces old-growth forest with second growth was intended to apply to the Tongass generally, but not intended to lay uniformly across the land. Obviously, this desired future condition is only applicable to those lands that have been designated for intensive resource development, and consequently do not apply uniformly across the land. In the case of the project area, the Management Area Direction in the Forest Plan specifies "improving timber stands through harvest and thinning."

The statement to which you refer (p. 4-14 of the DEIS) was incorrect and has been revised in the FEIS. See response to DEIS comment 1-5 (Appendix F).

As stated above, Section 101 of TTRA is intended to apply to the Forest as a whole. The conversion of old-growth to second-growth forest at the project level is not the appropriate scale at which to evaluate "the sustained yield of all renewable resources." Rather, the Forest Plan defines a forest-wide strategy for meeting multiple use goals and the sustained yield of forest resources.

Comment S7-6

The purpose and need prejudices against or actually precludes selection of the No-Action Alternative, and thereby commits the decision maker to selecting one of the alternatives that commits resources.

As a result, 40 CFR 1502.2(g) (EIS's shall not be used to justify decisions already made) was also violated by the DEIS and SDEIS. The Shamrock EIS's serve de facto, as a justification for a basic decision that has already been made and is put forth in the Purpose and Need, rather than serving as a means of assessing environmental impact toward the end of informed decision making.

Response S7-6

We do not agree with your claim that we have violated 40 CFR 1502.2 (g) (EIS's shall not be used to justify decisions already made) because of what you perceive as a predisposition to select one of the action alternatives. If the agency were not predisposed to some action, there would be no proposed action. But there has been no decision to move forward with a particular action alternative. Further, if the analysis documented in the EIS were to show that all of the action alternatives would result in unacceptable impacts, then no action alternative would be selected. This EIS does contain a full and fair discussion of a reasonable range of action alternatives as well as the no-action alternative.

Comment S7-7

Nowhere in the DEIS or SDEIS is there a comprehensive discussion or rigorous analysis of applicable laws, regulations and policies as they relate to the Purpose and Need and the individual alternatives. This lack of a solid legal framework is confusing to the Planning team, the decision maker, and the public...For example all or nearly all references to TTRA Sec 101 rely solely on its seek to meet market demand language, while completely ignoring Sec. 101's hard constraint that this must be consistent with providing for the multiple use and sustained yield of all renewable forest resources.

Response S7-7

Contrary to your comment, NEPA does not require "a comprehensive discussion or rigorous analysis of applicable laws, regulations, and policies." Rather, as stated in 40 CFR 1502.16, the EIS should discuss "possible conflicts between the proposed action and the objectives of Federal, regional, state, and local land use plans, policies, and controls." A section at the end of Chapter 4 in the DEIS and FEIS addresses this NEPA requirement.

Comment S7-8

An underlying Purpose and Need of the Shamrock Timber Sale is to link the Shamrock Timber Sale road system with that of the Douglas Timber Sale road system thereby providing roaded access to the southern portions of Kupreanof Island...

It is quite apparent from these statements that the intent from the outset, has been to build an inter-connecting road system for all of the Douglas/Shamrock Area and link it with Kake...

Because the planning team has simply put the Douglas Sale on hold and did not cancel it, nor offer any timeline for when it will proceed with a process already begun, the Forest Service must consider both the Shamrock and Douglas Sales together.

Response S7-8

As mentioned above, the Purpose and Need statement in Chapter 1 has been revised in the FEIS to indicate that development of a transportation system to meet long-term needs for Forest Service administration and visitors is a part of the project's purpose and need.

We do not agree that the Douglas Timber Sale is a connected action with respect to the proposed Shamrock Timber Sale. In 40 CFR part 1508.25 connected actions are defined as actions which:

- "(i) Automatically trigger other actions which may require environmental impact statements.
- (ii) Cannot or will not proceed unless other actions are taken previously or simultaneously.
- (iii) Are interdependent parts of a larger action and depend on the larger action for their justification."

There is nothing in the Shamrock Timber Sale that triggers any action on a Douglas Timber Sale. Nor are the two sales interdependent in any way. Either one of the projects could be implemented without the other. They do not require simultaneous or sequential action. While there may be an opportunity to consider alternatives that could connect the road system, the Douglas Sale could just as easily be designed without an interconnected road system. It is not clear that the Douglas Timber Sale meets any of the criteria for a connected action.

The Douglas Timber Sale is not now "ripe for decision." The Notice of Intent for this project was withdrawn and any work on this project has been terminated. The project has been removed from the five year timber sale schedule.

NEPA recognizes another type of relationship between projects that are not necessarily connected and that is cumulative actions. The EIS does recognize that the Douglas Timber Sale is reasonably foreseeable and would have a cumulative effect on some of the same resources that are potentially effected by the Shamrock Timber Sale. Accordingly, the Douglas Timber Sale is considered in this EIS under discussions of cumulative effects.

Comment S7-9

The NFMA restricts the Forest Service use of even-aged logging practices to where exceptional circumstances are satisfied--ie., only when clearcutting is insured to be consistent with the protection of all the forest's natural resources.

The SDEIS indicates that clearcutting is the primary means of harvest for the Shamrock project. Clearcut acres account for over 95% or 1,849 (including N1 9) acres in the project area, versus 5% or 100 acres are slated for partial cutting. The SDEIS should include a discussion on the merits of clearcutting in relation to the Alaska Regional Guide, and former Chief's policy on ecosystem management. The "certain conditions" referred to in the DEIS (at 4-5) in support of clearcutting as the optimal means must be disclosed in the EIS and shown to be consistent with the Chief's policy on ecosystem management and the Alaska Regional Guide.

Response S7-9

The rationale for using clear-cutting as well as other treatment systems is discussed in the vegetation section of Chapter 4 in both the DEIS and the FEIS. During the design phase of the Shamrock Timber sale, uneven aged harvest treatments (e.g. group selection, green tree retention, snag retention) were applied where it was feasible to do so. In addition, during layout and harvest, individual trees will be left wherever it is compatible with safety and logging feasibility. The use of clearcuts in the Shamrock Timber Sale is consistent with the NMFA, the Alaska Regional Guide, and the former Forest Service Chief's policy on ecosystem management.

Comment S7-10

...in the context of the Shamrock timber sale, the Forest service must disclose and evaluate the effects of logging and roading (i.e., the short-term uses) on the long term productivity of all renewable forest resources, including timber, fish, and wildlife.

Under applicable law, however, the Forest Service must take an additional step. The agency must use the long-term effects analysis to determine whether the logging and roading is consistent with the sustained yield off all renewable forest resources as required under the Tongass Timber Reform Act, and must ensure that the timber to be cut does not exceed the volume that could be sustainably cut in perpetuity as mandated by the National Forest Management Act.

Response S7-10

We agree that we are required to disclose and discuss the relationship between the local short-term uses of man's environment and the maintenance and enhancement of long-term productivity. This discussion can be found in the section on "Other Environmental Effects" at the end of Chapter 4 in both the DEIS and the FEIS.

We do not agree with your assertion that NFMA requires an analysis of the sustainability of this timber harvest as a part of the project-level analysis. NFMA requires that sustainability be addressed on a forest-wide basis as part of the forest planning process. Sustainability is a function not of a one-time harvest, but of the rate of harvest over time. Since this project only deals with a single harvest entry, there is no reasonable way to address sustainability at the project level. Sustainability is a key part of determining the ASQ in the Forest Plan. This analysis is currently on-going for the forest as a whole as part of the revision of the Forest Plan.

Comment S7-11

Consideration of "falldown" (i.e., the difference between the actual timber volume in the project area and the estimated volume) is essential to an informed and meaningful discussion of the potential long-term effects of the Shamrock Project, and to the ultimate determination regarding sustainability.

Despite ample evidence that significant falldown occurs on the Tongass, there is absolutely no indication that the proposed volumes for the Shamrock Timber Sale have yet been subjected to a falldown analysis... It is high time for the Forest Service to stop sweeping the falldown issue under the rug, and misleading both the decisionmaker and the public about the long-term effects of logging on the Tongass.

Response S7-11

We agree that the rate of timber harvest on the Tongass is important, but it is outside the scope of analysis for a single project. Adjustments in the allowable sale quantity must be made at the Forest Plan level. In 1991 the Irland Group conducted a study for the Forest Service that included falldown. They concluded that the net falldown rate for the Tongass was 23 percent. In evaluating the Irland Report, the Forest Service estimated a higher net falldown rate of 31 percent. The Forest Plan Revision Team is using this information, along with other factors, to adjust the allowable sale quantity for the Tongass.

General Response to Comments S7-12 through S7-28 (Subsistence)

Before responding to specific subsistence questions it may be helpful to discuss Forest Service policies and procedures for the management of subsistence on Forest Service lands within Alaska. All land managing agencies within Alaska are directed to adhere to provisions specified within the Alaska National Interest Lands Conservation Act (1980) (ANILCA), Title VIII; Subsistence Management and Use.

Forest Service management of subsistence is consistent with the purpose for the establishment of the National Forests. Forest Service management will provide for a continuation of the customary and traditional consumptive use of fish, wildlife, and other wild renewable resources on National Forests lands within Alaska. The management of the forests must comply with many laws and regulations. Under the Multiple Use and Sustained Use Act of 1960, the Secretary of Agriculture is "authorized and directed to develop and administer the renewable surface resources of the National Forest for multiple use and sustained yield of the several products and services obtained therefrom" (16 U.S.C. Section 529). Multiple use means "the management of all the various renewable surface resources of the National Forests so that they are utilized in the combination that will best meet the needs of the American people" (16 U.S.C. Section 531). Sustained yield means, "the achievement and maintenance in perpetuity of a high-level annual or regular periodic output of the various renewable resources of the National Forests without impairment of the productivity of the land." (16 U.S.C. Section 531).

We do not believe that Title VIII of ANILCA was intended to repeal or restrict multiple use management here on the Stikine Area of the Tongass National Forest. ANILCA, Section 802, established a congressional "policy" that "the utilization of public lands in Alaska is to cause the least adverse impact possible on rural residents who depend upon subsistence uses...consistent with...the purpose for each unit established, designated, or expanded by or pursuant to Title II through VII of this Act" (emphasis added). With respect to this particular project, Title VIII of ANILCA must be read in conjunction with other provisions of ANILCA which provide for an active timber industry, mining, recreation, and other uses. Thus we do not believe Congress intended that subsistence would be the dominant use of the forest. Rather, we believe that, consistent with the purposes for which the National Forests are managed (i.e., multiple use and sustained yield), management of the forest is to cause the least impact on subsistence.

Section 804 of ANILCA provides that nonwasteful subsistence uses of fish and wildlife and other renewable resources will have a priority over other consumptive uses of those resources. The effect of this section is to require that all sport and commercial fishing and hunting be eliminated before fish and wildlife regulations can restrict subsistence uses. Section 805 of ANILCA allows the State of Alaska to manage the taking of fish and wildlife on federal public lands if it is consistent with ANILCA. Presently, the State of Alaska is out of compliance with subsistence provisions mandated under ANILCA.

Section 810 of ANILCA is the focus of much of your letter, and the section upon which you appear to express the greatest concern with the Forest Service. We tend to view the concern as having arisen out of a tendency to read too much into Section 810 to the detriment of other sections of Title VIII or other statutes. Section 810 is defined, and applies solely to determinations "whether to withdraw, reserve, lease, or otherwise permit the use, occupancy, or disposition of public lands" (emphasis added). Many Forest Service activities do not fall within the definition just presented. An example of activities not covered under this section would be fire suppression. This is not to say that subsistence is not considered when Section 810 is not applicable. Subsistence is a major component within activities covered by the National Environmental Policy Act (NEPA)(1970).

In cases where Section 810 does apply, the Forest Service assesses the impact of the activity on subsistence uses, needs, the availability of other lands for the purposes sought to be achieved, and other alternatives which would reduce or eliminate the use, occupancy, or disposition of public lands needed for subsistence purposes. If the Forest Service determines that there is a significant restriction on subsistence, occurring as a result of the proposed action, then the procedures set forth in Section 810(a)(1)-(3) must be followed and the agency can only go forward with the action if the requirements of 810 (a)(3)(A)-(C) have been met. After determining that the conditions set forth in Section 810(a)(1)(A)-(C) have been satisfied, the Forest Service may manage the public lands under its jurisdiction for any uses or purposes authorized by law.

Comment S7-12

As we stated in our DEIS comments, we are particularly concerned that only two years after subsistence hunters can once again return to their traditional hunting grounds, your agency proposes another, in a series, of huge timber sales. Had subsistence use been a consideration, timber harvest would have been deferred to other areas less important to subsistence users.

Response S7-12

See response to DEIS comment 16-23 (Appendix F).

Comment S7-13

So the primary question here is whether it is OK to further impact subsistence deer hunters within the project area. Considering the "fragile nature of the deer population on Kupreanof Island" (SDEIS 4-12) we find it unconscionable to further impact the deer population.

Several factors mentioned in the SDEIS suggest that cumulative impacts from restrictions on other areas of the Tongass, may further exacerbate the subsistence findings... In light of all these admissions and a new subsistence finding Forest Service should select the No-Action Alternative as the Preferred Alternative. However, there was absolutely no change in the proposed road configuration, unit selection, or selection of a Preferred Alternative from the 1993 DEIS to the 1994 SDEIS!

Response S7-13

A quantitative analysis of the effects of timber harvesting on deer populations is presented in the wildlife section of Chapter 4 of the EIS. See response to DEIS Supplement comment S3-5.

As you mention and which was brought out in the Subsistence section of the Shamrock DEIS Supplement, hunter demand in the Shamrock area is potentially affected by current hunting pressure on Admiralty Island, the extent of clearcutting around Kake, and the access to Kupreanof Island from non-subsistence hunters. Regulation of deer hunting in the Shamrock area and Kupreanof Island, however, also needs to be considered. Currently the State of Alaska and the Federal

Subsistence Board (FSB) season and bag limit regulations mirror one another for the area of concern. Harvest limits for the area can be characterized as conservative. Both sport and subsistence harvest are allowed under current regulations. There is no comprehensive/accurate map depicting the Kake/Kupreanof road system readily available to the general public. Unless the hunter is familiar with the existing road system, it is unlikely much effort and/or expense will be expended on rather speculative prospects for the harvest of two deer.

Although the Forest Service has made preliminary finding of a significant restriction to subsistence use of deer due to the Shamrock Timber Sale, we do not believe this warrants a change in the selection or configuration of the preferred alternative. See the general response to comments S7-12 through S7-28 for a discussion of management of Forest Service lands with respect to ANILCA.

Comment S7-14

In Section 801 of ANILCA, Congress enunciates a definite national policy goal that customary and traditional lifestyles of rural Alaskans are to be afforded significant respect and protected whenever possible.

Response S7-14

There is no requirement that subsistence be the first consideration for potential use on the National Forests of Alaska. However, it is Forest Service policy to provide rural residents the opportunity to continue a subsistence way of life consistent with sound multiple use, sustained yield management of the National Forests.

Subsistence is but one of the many uses of fish and wildlife habitat. Sport and commercial fishing, sport hunting, and wildlife viewing are but a few of the many other uses along with subsistence opportunities that are accommodated in all the alternatives.

Comment S7-15

Any further restriction is not "necessary" under ANILCA Section 810 (a) (3) (A). None of the various laws, plans and guides cited in the either EIS require the Forest Service to offer any particular amount of timber through independent timber sales. Thus, any further restriction of subsistence uses is not necessary, because the Forest Service is not required to sell timber.

Response S7-15

See response to comment S7-2.

Comment S7-16

The purpose of a timber sale EIS on the Tongass should be to identify the alternative with the least possible adverse impact on subsistence. The Forest Service has so far been unable to select an alternative which has the least possible adverse impact on subsistence because it failed to meaningfully design and consider an alternative which could satisfy that purpose. The choice of the selected alternative over alternatives with less impact demonstrates the lack of priority given to subsistence in agency planning efforts...As of yet there has been no forest-wide cumulative subsistence impact analysis conducted on the Tongass.

Response S7-16

See response to comment S7-14.

The Tongass Land Management Plan Revision (SDEIS), Chapter 3, specifically addresses potential environmental effects on subsistence opportunities. Please refer to this document, and turn to pages 3-628 through 3-765 for the information you seek.

This document provides Forest-wide direction to ensure that management cause the least impact possible on subsistence opportunities. Additionally, it provides for consideration of habitat improvement and development of facilities to provide more subsistence opportunities as well.

Comment S7-17

In the DEIS and SDEIS the Forest Service justifies the need for the sale with the vague and open-ended phrase "seek to meet market demand." The market demand argument is not valid...

In the absence of a legitimate need to log in the Shamrock area, it is patently unnecessary to further restrict subsistence uses in the Shamrock Area.

Response S7-17

See response to comment S7-1.

Comment S7-18

Traditional and customary use of fish and wildlife resources in the Shamrock area is critically important to the residents of the island and nearby communities and is particularly important to the Tlingit and Haida cultures. Kake residents will be forced to utilize the project area for their subsistence needs because their own lands have already been heavily harvested of timber, and the closing of the second growth forest canopy will eliminate the forbes and herbs required for maintenance of deer populations. None of these cumulative effects have been adequately addressed in the DEIS or SDEIS.

Response S7-18

Historical research and analysis of the study area confirm that the Kake and Stikine Tlingit Kwans utilized portions of the study area for subsistence. We have no reference, other than individual, Haida use of the study area. If you have specific information concerning a Haida tribal claim for subsistence use within the study area we would be interested. The use of the Shamrock area by Kake residents is discussed in detail in the Subsistence section of the DEIS Supplement.

Comment S7-19

Subsistence use is the priority use of forest resources under ANILCA... In the SDEIS, the Forest Service concludes there may be a significant restriction of the subsistence use of Sitka Blacktail deer in the project area under any alternative. Based on that finding, the Forest Service has concluded that it is free to select any alternative because all alternatives would give rise to further restrictions on the subsistence use of deer.

That logic is fatally flawed. First, the Forest Service must go one step further and determine which of the alternatives would have the least impact on subsistence use of deer...the selected alternatives does not "minimize adverse impacts" as required by Section 810(a)(3)(C). This violates ANILCA...

The Forest Service's interpretation of Section 810's minimal amount of public lands requirement is also inconsistent with that statute's purpose and structure.

Response S7-19

The Forest Service has not concluded that it is free to select any alternative because all alternatives result in some restriction on subsistence use of deer. The differences among alternative in the reduction of deer habitat capability range from 0.7 (Alternative 3) to 1.9 percent (Alternative 2) in WAA 5133. Although this reduction is relatively small, it is still the basis of the conclusion that there will be some restriction on subsistence use of deer due to a decrease in abundance, since the hunter demand in this WAA already requires more deer than this WAA can now support. It can be expected that the degree of restriction will vary with the decrease

in abundance. Likewise, the degree of increased competition for deer can be expected to increase in proportion to the length of road under each alternative. Additional text describing the differences among alternatives in their effects on subsistence use of deer have been added to the "Deer Findings" subsection of the Chapter 4 Subsistence section.

ANILCA 810 provides the legal framework that federal managers must follow in determining whether to withdraw, reserve, lease, or otherwise permit the occupancy, or disposition of public lands. The Forest Service is following a process that complies with ANILCA.

Comment S7-20

The Forest Service has so far failed to follow Section 810(a)(3)(C)'s directive to take "reasonable steps to minimize adverse impacts upon subsistence uses and resources resulting from its actions."... Although the FEIS recites that general standards and guidelines and management prescriptions will be implemented, it does not discuss their implementation by alternative, by community use area, or in any other meaningful way.

Response S7-20

To the extent that harvesting timber reduces habitat capability for Sitka blacktailed deer, there is no mitigation that can minimize adverse impacts to this subsistence resource. However, the 3.0 percent reduction in deer habitat capability over the Shamrock area under the preferred alternative is a relatively small adverse effect. Impacts to fish subsistence resources are minimized through a variety of measures discussed in detail in Chapter 4. There is no language in Section 810(a)(3)(C) of ANILCA that indicates a requirement for "consideration of minimization measures by alternative." Standards and guidelines and management prescriptions apply across all alternatives. The SDEIS (pages 4-12 through 4-21) provided a thorough discussion of the proposed project upon subsistence opportunities.

Comment S7-21

Although the SDEIS suggests that "closing roads 45803 and 45804, and other roads, after harvesting would be likely to reduce hunter demand in WAA5133." (SDEIS 4-21) it does not go one step further in actually recommending such closures.

Response S7-21

If such a recommendation was to be made it would be within the Record of the Decision, following the FEIS for this study area. As described in the Road Management Objectives in Appendix D, public use of these roads following commercial use will be discouraged and the roads will eventually (10 to 15 years) be impassible due to regrowth of alders.

Comment S7-22

If the proposed action alternatives indeed meet the perceived Purpose and Need of the Project, then why wasn't at a minimum, the least impacting action alternative chosen?

Response S7-22

The preferred alternative was chosen because it provided the best balance of supplying timber with protecting other resources.

Comment S7-23

Finally, reasonable steps to minimize restrictions should include deletion of all clearcut units in the highest value deer winter range on south facing slopes. Specifically, deletion of units 10, 23, 34, 43, 55, and 81 are in order. Review of the Shamrock unit cards reveals that all these units are located in deer winter range habitat yet the Forest Service justifies clearcutting in important deer winter range with a boilerplate comment that the conflict is not mitigated since "adequate habitat exists elsewhere." Since there is "no suitable deer winter range" in the project area, and 90% of the

analysis area is unfavorable or unsuitable" (SDEIS 4-18) we would like to know exactly where "adequate habitat" exists?

Response S7-23

Some harvest in areas having "average" habitat suitability as deer winter range (the highest suitability of deer winter range available in the Shamrock area) was required to make enough timber available in the sale for a reasonable cost in road construction. The statement referring to "loss of deer winter range habitat is not mitigated because suitable habitat exists elsewhere" has been revised in the FEIS to say that "loss of deer winter range habitat is not mitigated".

Comment S7-24

We question the finding that N1 Unit 9 has no wildlife concerns (ie goshawk and deer). For instance, as stated in the DEIS (at 3-12) "variation in deer winter range suitability within the Shamrock Area is primarily due to elevation and aspect." Although the Unit card states there are no wildlife concerns for this unit, it is impossible for the public to evaluate the accuracy of that statement since no topographic lines were included in the various maps in the EIS.

Response S7-24

One hundred (100) foot topographic contour intervals are displayed on the individual unit card maps. However, it is felt that such lines would be confusing and serve little purpose at such a scale on the alternative maps.

Comment S7-25

Black bear, marten, moose and Canada Geese are among the many other species which area residents depend for their subsistence needs. The cumulative impact on these species will reduce habitat capabilities over the forest rotation. The cumulative impact from past, present, and planned timber cutting on national forest and private lands is not adequately assessed in the DEIS or SDEIS.

Response S7-25

For specific projects, such as the Shamrock SDEIS, the subsistence evaluation involves the consideration of many factors including the overall demand for specific resources as well as the capability of the Forest to produce those resources under the various proposed alternatives. Also considered are the importance of specific areas to subsistence and the effect of the proposed action on these areas. Impacts on abundance and distribution, access, and competition are considered. The cumulative effects analysis considers the impacts of implementing each of the alternatives in combination with the impacts of past, present, and reasonably foreseeable future actions.

Cumulative effects on the species you mention and wildlife in general are addressed in the Subsistence, Wildlife, and Biodiversity sections of the Shamrock DEIS and FEIS. The Shamrock SDEIS evaluation determined that action alternatives in this project do not present a significant restriction of subsistence uses of black bear, furbearers, marine mammals, waterfowl, salmon, other finfish, and other foods.

Comment S7-26

The findings of the SDEIS concerning the significant impacts on subsistence fish resources are highly questionable... The need for such a macro-assessment of impacts to watersheds is particularly relevant to the Shamrock project area because potential for temperature related die-offs. Given the past history of temperature related mass fish die-offs in Castle River, the claim that the amount of logging approved for the Shamrock project area will not cause a significant impact to fishery resources is unfounded. In fact, a recent FS "Assessment of Contractor Prepared Timber Sales on the Tongass" indicated that EA contractors felt the FS "soft-pedaled" the issue of temperature sensitivity of streams in the Shamrock area.

Response S7-26

See responses to DEIS comments 4-1b (temperature) and 14-23 (PACFISH). The Forest Service thinks temperature issues were dealt with thoroughly and objectively within the framework of the EIS.

Comment S7-27

The agency's failure to comply with the Area Analysis process prescribed for timber sales in the 1985-86 TLMP Amendment precludes affected subsistence users from even learning the extent of subsistence impacts from all planned activities on Kupreanof Island.

Response S7-27

The Forest Service has and continues to comply with the 1985/86 TLMP Amendment by conducting NEPA analysis on projects. The Amendment describes Area Analysis as a process that allows conducting NEPA analysis on a number of projects at one time, within an area. Experience has shown it is often too complicated to analyze more than one project at a time, so we now refer to the process as project analysis.

Comment S7-28

The implicit reliance on draft conclusions stated in the TLMP Revision SDEIS, without disclosing and responding to critiques of that analysis violates NEPA.

Response S7-28

Habitat capability estimates in the TLMP Revision SDEIS (USDA Forest Service 1991d) were used as a comparison to estimates developed during the analysis for the Shamrock Timber Sale, and the two estimates for WAAs 5130 and 5133 were found to be similar. The conclusions of the subsistence analysis do not depend on any conclusions or cumulative impact analysis presented in the TLMP Revision SDEIS.

Comment S7-29

According to the SDEIS the preferred alternative will return a negative \$149 per thousand board feet of timber harvested. This works out to a deficit to the U.S. Treasury and taxpayer of -\$6.5 million dollars. When the cost of this contractor prepared timber sale is included, purchaser road credits, Regional Office timber costs, Washington office costs, payments to the State, and the true cost of the "temporary seaplane float" on Irish Lake, the deficit nature of this timber sale must be staggering! Please disclose in your next Shamrock EIS an estimate of all the above costs to the U.S. Taxpayer.

Response S7-29

See response to DEIS comment 1-7 regarding deficit timber sales.

The cost of the analysis itself, National Forest Management costs, and payments to the State are not included in this analysis and are outside the scope of this analysis and decision.

The purpose of the economic analysis in the EIS is to provide a means by which short-term cost and revenues for each alternative can be compared. This economic analysis is done for the purpose of relative ranking of the alternatives only. Actual timber values and cost at the time of the sale may deviate, due to fluctuations in market conditions, from the numbers displayed in the alternative comparisons.

Timber markets vary during the time between planning and actual selling a timber sale. Timber values can change dramatically during this period. Due to these market variations, the estimates of timber end-product selling value are based on the mid-market level.

The mid-market assessment is based on weighted average pond log values, estimated logging and roading costs, normal profit ratios, and base rates in effect on the date

the Forest Service initiates the NEPA process with publication of the Notice of Intent in the Federal Register. The initial Notice of Intent for the Shamrock Timber Sale(s) EIS was published in the Federal Register on 23 December 1991.

The analysis treats road capitalization as a short term direct cost to the project. It does not amortize these costs over the life of the road and does not show the economic benefits of the road system to future timber sales and other National Forest users. If the long term benefits were applied against the initial roading costs, the numbers would move positive. These numbers would still only be useful for the relative ranking between the alternatives.

Comment S7-30

Although your analysis came a long way from the previous analysis by designating retention areas, we were disappointed that your analysis did not adopt the recently proposed Habitat Conservation Area (HCA) Strategy...

NCC previously submitted comments November 9, 1994 to Regional Forester Janik on the Forest Service's recent Environmental Assessment (EA) for their proposed TLMP amendment to develop a Habitat Conservation Area (HCA) strategy...

We are unable to evaluate if the proposed retention strategy meets the above requests which are consistent with the VIAPOPS Strategy. Please disclose this information. We call into question the claim in the SDEIS (4-7) that proposed Wild and Scenic rivers function in linking the seven small HCA's to each other and medium HCA's.

Response S7-30

Your comments express your concern for consistency with the proposed Habitat Conservation Area Strategy currently under consideration as an amendment to the Forest Plan. Although no decision has yet been made on the adoption of such a strategy, the alternatives in this project are consistent with the proposed strategy. There are no proposed large or medium habitat conservation areas (HCAs) in the project area. The alternatives in this project actually go beyond the strategy being considered in the proposed amendment in the Forest Plan by using small habitat conservation areas as the basis for identifying acres to be managed as old-growth habitat (i.e., retention). This is in addition to protecting stream, beach and estuary buffers.

Although NCC's requests to the VIPOP Environmental Assessment are not within the scope of the Shamrock EIS, most of the information you are referring to is in the Shamrock SDEIS. The preferred alternative does not intrude and only Alternative 2 proposes a small intrusion into eligible Wild and Scenic River corridors. Consequently, they should function as effective corridors between the proposed areas to be managed as old growth.

Comment S7-31

The guidelines as set forth in Alternative 3 of the VIAPOPs Strategy should be adopted for this sale.

Response S7-31

We appreciate your comments on the protection of goshawk nests. The question of which strategy provides the most appropriate level of protection for the goshawk is beyond the scope of this analysis. Any decision on this project will be consistent with decisions made on the protection of goshawk habitat.

Comment S7-32

If Murkowski succeeds in passing this bill (Landless Native Land Allocation Act of 1994), reliance of the Shamrock analysis on the Rocky Pass area to satisfy

requirements of a medium HCA will no longer be valid. Please disclose and analyze effects of the Landless Bill on the Shamrock analysis.

Response S7-32

Currently there is no such legislation, but if such a bill should be passed into law, the potential effects of the bill will be considered in relation to this project and a determination would be made regarding the need for additional analysis.

Comment S7-33

The Shamrock EIS claims that "A major cumulative effect of these sales is to increase the public access to fishing in the Shamrock area, increasing the potential for overharvest of fish." (SDEIS 4-33). Although the FS suggests that specific management regulations are available to prevent overfishing (SDEIS 4-35) no restrictions are recommended.

Serious mitigation must be considered before adoption of a final EIS. While the Forest Service cannot enforce State hunting regulations, they can require their contractors and agency personnel to transport personal fishing and hunting gear via private transportation...

Response S7-33

Although the analysis has indicated that there is an increased potential for overharvest of fish and game populations in the project area due to increased access, we do not feel the mitigation measures you requested are necessary at this time.

However, if over harvest were to occur, the following are ways to mitigate the problem. Under Alaska National Interest Lands Conservation Act Public Law 96-487, "fish and wildlife resources can be managed by the Forest Service on public land...to assure the continued viability of a fish or wildlife population... if such an action is needed." In addition Alaska Department of Fish and Game also has emergency regulatory authority to manage any stressed populations.

Comment S7-34

Another possible action to minimize impacts on fish resources in the Project Area would be the implementation of the PACFISH strategy.

Response S7-34

See response to DEIS comment 14-23.

Comments S7-35

Please disclose and explain the above factors surrounding the decision to locate a temporary seaplane float in Irish Lakes. This disclosure should include all costs related to constructing, redesigning, transporting, and cleaning up float debris around the Lake. The costs of this fiasco are directly related to the economic analysis contained in the EIS and should not be dismissed as outside the scope of the project. We request that the float be removed until a thorough and proper analysis is conducted and the suitability of the river in the wild and scenic river system is finally determined.

Response S7-35

We disagree with your statement and feel the seaplane float and associated costs are outside the scope of this analysis, as they are not germane to the alternatives or decisions to be made. The cost of the analysis itself is not included in the economic analysis. See also Response S7-29.

Comment S7-36

NCC previously requested an extension of the comment period for the SDEIS due to inadequate public notice for the comment. (See NCC Letter to Abigail Kimbell, January 4, 1955)...

Despite the quest for a prompt written reply, the Forest Supervisor responded on January 23, 1995, only one week prior to the end of the comment period, and denied our request. (See Forest Supervisors letter to NCC, January 23, 1995). This denial is in error however, and continues to violate NFMA and the Regional Guide...

We know of at least two individuals that did not receive a copy of the Shamrock SDEIS and/or the postcard apology... Given the FS's inability to correctly notify all interested parties (i.e. inadequate notice and the "mixup" concerning the mailings) it is unconscionable and illegal that our request was denied.

Response S7-36

The Forest Supervisor responded to you in a letter dated January 23, 1995 which addressed the issue of public notice and the Forest Service's effort in making the Shamrock DEIS Supplement available to the public. The Forest Supervisor denied your request for an extension of the comment period.

Comment S7-37

Although outside the Study Area, previous units included in the North Irish Timber Sale Reoffer (which N1 9 was a part of) were previously felled and bucked, however have not been yarded from the units and sold... We wonder why the Petersburg Ranger District FS has not proceed with plans to recoup their losses (from the North Irish Timber Sale). Additionally, we fear that due to the length of time the FS has taken to recoup such losses, the logs may have rotted to the extent that much of their timber value has been lost. Exactly what is the condition of the logs remaining on the ground"...

The Forest Service should make every attempt to yard this timber since it will not only reduce the FS perceived "market demand" and lessen impacts in the Shamrock project area but also utilize a resource that would have been much more beneficial to the forest if left standing.

Response S7-37

The Forest Service attempted to reoffer the felled and bucked timber under the North Irish Creek Timber Sale Reoffer EA. That decision was appealed by the Organized Village of Kake and later rescinded. The area mentioned is outside the study area for the Shamrock EIS and not within the scope of this analysis.

Comment S7-38

Senator Murkowski is poised to reintroduce the Landless legislation to Congress at any time... Shamrock lands will become especially important for subsistence users from Kake, Kupreanof, and Petersburg, as areas such as Rocky Pass, Bay of Pillars, and Farragut Bay are clearcut. Please disclose the effects of this legislation on the economy, especially in relation to subsistence.

Response S7-38

See response to comment S7-32.

Received

JAN 31 1995

CITY OF KUPREANOF ALASKA

Tongass N.F.

Post Office Box 50
Petersburg, Alaska 99833Abigail Kimbell, Forest Supervisor
Stikine Area, Tongass National Forest
PO Box 309
Petersburg, AK 99833

FEB - 2 1995

27 January 1995

The City of Kupreanof appreciates the opportunity to make these comments on the Supplement to the Draft Environmental Impact Statement (SDEIS) for the Shamrock Timber Sale.

1 The City of Kupreanof would like to see an environmentally and economically responsible timber harvest on the Tongass National Forest. Responsible timber harvest on an **appropriate scale** of harvest can provide a vital aspect of a sustainable and diverse economic base for the economy of Southeast Alaska. This sale, especially in conjunction with four other concurrently planned timber sales, far exceed the notion of appropriate scale.

2 The NEPA process conducted on this sale has proven to show little regard for the impacts this sale imposes on the human environment, especially in relation to the economic policy it forces upon the citizens of the Tongass National Forest. This policy is inherently divisive, literally pitting neighbors against each other, and forcing the people to accept the consequences of an inherently flawed economic policy based on unsustainable and highly disruptive resource extraction.

3 This timber sale imposes an economic policy by default, a policy identical to the one which led the timber dependent communities of the Pacific Northwest to harvest at an unsustainable rate and suffer severe environmental and economic damages. Other vital aspects of the regions economy suffered as well. The commercial salmon fishing industry, the tourism industry, and untold corporate and private business decisions were affected by region-wide economic impacts imposed by this policy. It is our hope that by this example, a course correction would take place as our area braces itself for a barrage of timber sales totaling over 200 million board feet, and primarily focused upon Kupreanof Island.

(cont.)

pg.2

4 Both the DEIS and the SDEIS reflects very little concern for the cumulative impacts of the Bohemia Mountain, South Lindenburg, Douglas, North Irish Creek Reoffer, and Shamrock Timber Sales. In aggregate, they represent an unprecedented scale of impacts upon vast areas of Kupreanof Island. The City of Kupreanof has repeatedly requested that a Mid-Level Area Analysis be conducted before this massive scale of "development" is imposed on Kupreanof Island.

5 This sale is being touted as an "independent sale" but is being planned on a scale far exceeding the financial capability of the region's small business independent operators to participate in the bidding process. It is likely that the remaining long term contract holder, Ketchikan Pulp Company (KPC), will prevail in this bidding process. Recent figures show KPC paying the lowest prices per thousand board feet when compared to what independent, or larger corporate timber companies are currently paying, compounding the financial dilemma this sale already imposes.

6 The preferred alternative will result in millions of timber subsidy dollars being committed to a seriously flawed economic policy at a time when the United States government is imposing harsh cut-backs on many vital aspects of our society. The national deficit which costs the taxpayers billions in interest each year was created in part, by destructive programs such as below-cost timber sales such as this. These impacts upon the human environment need to be addressed by the NEPA process.

7 The study area is recognized as having relatively low quantities of commercial timber, an already naturally fragmented landscape, poorly drained soils, and with biodiversity of wildlife likely to suffer from further fragmentation of the landscape. This imposes an unfair dilemma upon both the landscape and the people that depend on the landscape remaining functional to serve a variety of uses extending beyond timber harvest.

8 Considering the implementation of an extensive road system, inevitable impacts to subsistence opportunities and other vital aspects of our region's economy, the City of Kupreanof would like to see the No Action Alternative chosen until the completion of the Mid-Level Analysis of Kupreanof Island.

Sincerely,



Dave Beebe

Mayor, City of Kupreanof

Dave Beebe, City of Kupreanof (#S8)

Comment S8-1

This sale, especially in conjunction with four other concurrently planned timber sales, far exceed the notion of appropriate scale.

Response S8-1

The scale and schedule of harvest on Kupreanof Island is currently set by the existing Forest Plan and will be updated with a revised Forest Plan. The appropriate scale of harvest on Kupreanof Island is consequently an issue being addressed by the revision of Forest Plan now taking place.

Comment S8-2

The NEPA process conducted on this sale has proven to show little regard for the impacts this sale imposes on the human environment, especially in relation to the economic policy it forces upon the citizens of the Tongass National Forest. This policy is inherently divisive, literally pitting neighbors against each other, and forcing the people to accept the consequences of an inherently flawed economic policy based on unsustainable and highly disruptive resource extraction.

Response S8-2

See response to DEIS comment 10-1.

Comment S8-3

This timber sale imposes an economic policy by default, a policy identical to the one which led the timber dependent communities of the Pacific Northwest to harvest at an unsustainable rate and suffer severe environmental and economic damages...

Response S8-3

The regional and long-term economic effects of timber harvesting in the Tongass National Forest are addressed in the existing and on-going revision of the Forest Plan.

Comment S8-4

Both the DEIS and the SDEIS reflects very little concern for the cumulative impacts of the Bohemia Mountain, South Lindenburg, Douglas, North Irish Creek Reoffer, and Shamrock Timber Sales. In aggregate, they represent an unprecedented scale of impacts upon vast areas of Kupreanof Island. The City of Kupreanof has repeatedly requested that a Mid-Level Area Analysis be conducted before this massive scale of "development" is imposed on Kupreanof Island.

Response S8-4

Of the timber sales you mention, the North Irish Reoffer has been canceled, and the Douglas Timber Sale has been removed from the five year timber sale schedule. Cumulative effects of past and planned timber harvest on the biodiversity of Kupreanof Island are discussed in Chapter 4. See response to DEIS comment 1-1 concerning a mid-level area analysis.

Comment S8-5

This sale is being touted as an "independent sale" but is being planned on a scale far exceeding the financial capability of the region's small business independent operators to participate in the bidding process.

Response S8-5

As stated in Chapter 1 of both the Draft EIS and Supplement to the DEIS, the project is planned for one or more sales. Market demand at time of sale will dictate the size of the sale(s).

Comment S8-6	The preferred alternative will result in millions of timber subsidy dollars being committed to a seriously flawed economic policy at a time when the United States government is imposing harsh cut-backs on many vital aspects of our society.
Response S8-6	See response to DEIS comment 1-7.
Comment S8-7	The study area is recognized as having relatively low quantities of commercial timber, an already naturally fragmented landscape, poorly drained soils, and with biodiversity of wildlife likely to suffer from further fragmentation of the landscape. This imposes an unfair dilemma upon the landscape and the people that depend on the landscape remaining functional to serve a variety of uses extending beyond timber harvest.
Response S8-7	The analysis of impacts resulting from the Shamrock Timber Sale (presented in Chapter 4) do not indicate that the landscape will become nonfunctional for any of its current uses, including subsistence, wildlife habitat, fish habitat, or recreation.
Comment S8-8	Considering the implementation of an extensive road system, inevitable impacts to subsistence opportunities and other vital aspects of our regions economy, the City of Kupreanof would like to see the No Action Alternative chosen until the completion of the Mid-Level Analysis of Kupreanof Island.
Response S8-8	Comment noted.

STATE OF ALASKA

OFFICE OF THE GOVERNOR

OFFICE OF MANAGEMENT AND BUDGET DIVISION OF GOVERNMENTAL COORDINATION

TONY KNOWLES, GOVERNOR

LETTER #59

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January 30, 1995

Ms. Abigail R. Kimbell
Forest Supervisor
U.S. Forest Service, Stikine Area
P.O. Box 309
Petersburg, AK 99833

RECEIVED
JAN 30 1995

FAX: 772-3314

Dear Ms. Kimbell:

SUBJECT: SHAMROCK SDEIS REVIEW
STATE I.D. NUMBER AK9412-17JJ

On September 16, the Division of Governmental Coordination wrote a memorandum concerning the State's procedure for participating in the U.S. Forest Service's (USFS) scoping review under the National Environmental Policy Act (NEPA). That memorandum reflected the expectation that DGC would receive comments and issue a consolidated response which would address NEPA and preliminary ACMP issues. In the past, DGC routinely issued consolidated responses for timber sale DEIS and SDEIS reviews.

For the Shamrock SDEIS review, DGC was unable to prepare a preliminary consolidated ACMP response under NEPA. Problems with distribution of the SDEIS and large staff workloads limited the time available for state resource agency review of the SDEIS, and comments could not be provided to DGC in time for a January 30th consolidated response. The USFS did not allow the review extension requested by the State. The state resource agencies' comments are being submitted directly to the USFS. The state resource agencies' comments serve as the State's response under the SDEIS review.

As you know, pursuant to 15 CFR 930, Subpart C, the proposed timber sale is required to be consistent to the maximum extent practicable with the standards of the ACMP. At the time the U.S. Forest Service submits a federal consistency determination and sufficient information to the State, the State will conduct an ACMP review.

Sincerely,



Christine Valentine
Project Review Coordinator
SE Consistency Review Section

cc: Jim Ferguson, DEC, Juneau
Lana Shea, DFG, Juneau
Jack Gustafson, DFG, Ketchikan
Elizaveta Shadura, DNR, Juneau

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State of Alaska, Division of Governmental Coordination (#S9)

Comment S9-1

For the Shamrock SDEIS review, DGC was unable to prepare a preliminary consolidated ACMP response under NEPA. The state resource agencies' comments are being submitted directly to the USFS. The state resource agencies' comments serve as the State's response under the SDEIS review.

Response S9-1

Thank you. The Forest Service has responded to the State resource agencies' comments.

LETTER #S10

DEPARTMENT OF FISH AND GAME

SOUTHEAST REGIONAL OFFICE
HABITAT AND RESTORATION DIVISIONP.O. BOX 240020
DOUGLAS, ALASKA 99824-0020
PHONE: (907) 465-4290

January 27, 1995

Abigail Kimbell
Forest Supervisor
Tongass National Forest, Stikine Area
P.O. Box 309
Petersburg, Alaska 99833RECEIVED
JAN 27 1995

Dear Ms. Kimbell:

The Department of Fish and Game appreciates the opportunity to review the Forest Service's (FS) Supplement to the Draft Environmental Impact Statement (SDEIS) for the Shamrock Timber Sale on Kupreanof Island. This Supplement was completed to describe the effects of several modifications to the action alternatives previously described in the Draft Environmental Impact Statement (DEIS) for the project. These include the addition of a 110-acre unit and road segment from the North Irish Creek Timber Sale Re-offer; minor changes to the Shamrock sale area road system; the designation of wildlife retention areas; implications of the recently published 1994 Alaska Region Sensitive Species List; and changes in the ANILCA 810 findings for subsistence use of deer. We offer the following comments to provide the FS with an opportunity to address outstanding issues and change the preferred alternative prior to completion of the Final Environmental Impact Statement (FEIS).

1 We are disappointed to see the limited scope of the Supplement relative to the concerns we expressed in our comments on the DEIS. Although some of the issues raised in our DEIS comments were addressed, many others were ignored. Those that were dealt with, namely retention and subsistence analysis, were inadequately addressed. Consequently, all of our DEIS concerns remain valid and we reiterate them by reference. Until they are better addressed, we cannot comment on ACMP consistency or other issues affecting minimum viable populations and the sustained yields of wildlife and fisheries resources of the project area, and Kupreanof Island as a whole, to meet public demand. We
2 continue to strongly recommend that Alternative 3 be selected as the preferred alternative as it appears to provide a viable timber offering while minimizing impacts to subsistence users, fragmentation of old-growth blocks, and timber harvest in the Castle River drainage. As stated in our DEIS comments, the
3 department has long opposed timber harvest in the lower Castle River drainage and requested this area be managed to produce fish and wildlife. Therefore, harvest in the upper reaches of the drainage, especially along the south- and west-facing slopes,

Abigail Kimbell

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should be minimized. Some of the more important issues of concern to the department are discussed as follows:

Fisheries Concerns

The concerns and recommendations that we expressed in our scoping and DEIS comments were not addressed in the Supplement and, in fact, many of the problems that we identified in those comments persist in the descriptions for the new and modified road segments. For example, although the road descriptions state that "All Class I streams would require passage of salmon fry, and all Class II streams require passage of resident fish," several of the culverts proposed for higher gradient class I and II streams will not assure juvenile fish passage as required by AS 16.05.840. These include the CMPs proposed for Station 11+09 of the 45804 Road and those proposed for Stations 14+48, 38+51, and 137+28 of the 45808 Road. According to the Supplement, gradients at these locations range from 4 percent to as much as 60 percent. To meet the intent of AS 16.05.840 (the Fishway Act) and comply with 6 AAC 80.130 of the ACMP, bridges or bottomless arch structures must be installed at these locations and generally would be needed at all other crossings of fish bearing streams where the natural gradient exceeds 2 percent.

Deer Habitat Capability Underestimated

A persistent problem with the EIS is that the Supplement continues to base its analysis of effects on deer and subsistence users on the same habitat capability figures that were used in the DEIS. As noted in our comments on the DEIS, these figures underestimate the adverse effects of timber harvesting on deer and hunters because they do not include the patch-size factors of the interagency habitat capability model. Consequently, we requested that the figures be re-evaluated and that ADF&G be notified of changes prior to publication of the FEIS (pg. 8, state DEIS comments, 12/6/93). In addition to the written state comments, staff from the Division of Wildlife Conservation discussed the questionable deer habitat capability figures with a biologist on the ID Team in September 1993 and requested the model output be reviewed and that ADF&G be informed of the results of the review. After more than a year, no one from the ID team has contacted ADF&G on this or any other issue raised in our DEIS comments. This lack of interagency cooperation in the planning process is discouraging and the results are apparent in the Supplement to the DEIS.

We again request that the deer habitat capability model be reviewed in consultation with ADF&G, Division of Wildlife Conservation staff, and that the model outputs be adjusted accordingly prior to publication and release of the FEIS. In addition, the adjectives used to describe habitat values

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5 ("average," "good," "unsuitable," "marginal") need to be defined in terms of the Habitat Suitability Index (HSI) values they represent. This is especially important as the rationale for retention areas seems to be based on "good" and "average" wildlife habitat.

Retention

6 In our comments on the DEIS, we expressed our concern that the identification of timber harvest units without prior consideration of an old-growth habitat retention strategy would preclude options for selecting areas with the most value to wildlife. We requested that the FS select retention areas in consultation with ADF&G, and that the selection process not be constrained by the pre-determined unit pool. Although the SDEIS would have been the appropriate means of adjusting the unit pool to accommodate the interagency development of an effective retention strategy, no adjustments were made and, to our knowledge, no coordination with ADF&G occurred. Consequently, the areas identified for retention are insufficient to provide suitable habitat to maintain minimum viable populations of all species, and sustained yields of old-growth dependent wildlife for hunters and non-consumptive users.

7 It appears that they were selected primarily for size and spacing reasons, rather than for their value as habitat. For example, with the exception of retention areas 429B and 429C, all of the areas contain less than five percent of habitat deemed "average" for deer (SDEIS, Table 4-1). More specifically, areas 436A and 438A include only two percent and one percent of "average" quality deer habitat, respectively. "Good" quality marten habitat is likewise poorly represented in the retention areas, comprising only two to 20 percent of the retained acres.

8 If the retention areas are intended to function as small Habitat Conservation Areas (HCAs), they must provide functional habitat for wildlife dispersing between large and medium HCAs. However, the value of the retention areas in helping to maintain minimum viable populations is questionable due to their low habitat values and the poor connectivity between the remaining old-growth areas due to the proposed 6314 mainline road which would bisect the project area. Roads should be located outside of old growth travel corridors, except where other routing alternatives do not exist. If roads must be built, clearing widths should be kept to a minimum and roads should be closed to public access to optimize the refugium value of the HCAs. Neither the DEIS nor the Supplement contain a strategic road access management plan. Such a plan is needed in the FEIS/ROD.

9 The Supplement inaccurately characterizes the retention areas as being located "...in the lower portions of watersheds" (pg. 4-7).

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From the maps in the Supplement and DEIS, it appears that three of the seven areas are, in fact, located at the headwaters of drainages and three others are much closer to the headwaters than the mouths of their respective watersheds.

9 Given the constraints of the Federal Advisory Committee Act, we request the opportunity to work directly with the IDT leader to make specific retention recommendations. Our objectives are to develop an old growth retention scheme that maintains minimum viable populations of non-harvested species and sustained yields to meet the public demand for species that are harvested or otherwise important for human use. As proposed, the current retention strategy is inadequate for assuring that allowance has been made for important wildlife habitat within the project area as required by AS 41.17.060(C) (7) and the ACMP.

Timber Yield From Sale

0 Neither the Supplement nor the DEIS appear to include timber logged from road rights-of-way in the timber yield figures, although 500+ acres may be harvested on road rights-of-way. The description of the timber volume to be harvested, as well as calculations of proportionality of timber harvest, should reasonably include the right-of-way harvest.

Purpose and Need

11 The stated purpose and need for the Shamrock Sale appears inconsistent with three of the four action alternatives, including the preferred alternative. These alternatives call for constructing a mainline road extending most of the length of Kupreanof Island. If the need were only to supply timber for independent operators, as stated, then it appears the most economical approach would be to concentrate timber harvesting in the north end of the project area, thereby reducing the roading costs while minimizing fragmentation and impacts to wildlife and subsistence use. It appears an unstated purpose of the project is to provide road access to the southern end of Kupreanof Island. This may be a legitimate reason to conduct a substantially deficit timber sale such as this, but it should be identified as one of the reasons for the project.

Subsistence

12 Having noted that a significant restriction of subsistence uses already exists in WAA 5133 in the project area, the Supplement contends that further reductions in deer habitat capabilities and, thus, further restriction of subsistence uses is necessary. In light of the closure of the Sitka mill, the cancellation of the APC long-term contract, the closure of the Wrangell sawmill, the availability to independent operators of timber previously

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destined for APC, and the significant effects on subsistence uses, we question if there is a compelling reason to proceed with this project.

12 The Supplement contends, on page 4-20, that the effects on subsistence as a result of the Shamrock sale are "necessary and consistent with sound management of public lands" (as per ANILCA Sec. 810 (a)(3)(A)). Although other aspects of ANILCA Sec. 810 have been subject to intense review in the courts, the question of what is required under (a)(3) has not been examined. The stated rationale for the Shamrock project is, apparently, to simply "meet market demand for timber" (pg.4-20). Thus, the FS appears to imply that logging can occur at the expense of subsistence uses so long as there are some putative uses for the timber harvested or some management plan objectives to be met. We question whether this determination meets the procedural requirements of (a)(3)(A). We believe ANILCA provisions require the FS to show that impacts to subsistence uses have been minimized; yet both the Supplement and the DEIS fail to do this. 13 The Supplement's rationale on page 4-20 seems to be that because all of the action alternatives involve some potential impact to subsistence uses, it doesn't matter which alternative is selected. We believe that among the action alternatives, Alternative 3 would have the least impact to subsistence uses and, therefore, should be selected as the preferred alternative in the FEIS as per ANILCA.

14 Units 10, 23, 24, 43, 55, and 81 all are in WAA 5133, in which a significant restriction of subsistence use already exists according to the Supplement. Nevertheless, the unit cards state that harvesting of deer winter range in these units "is not mitigated since adequate habitat exists elsewhere." If adequate habitat exists, then there would not be a restriction of subsistence use. Impacts to subsistence are not minimized by reducing habitat capabilities further, without mitigation, in an area in which a subsistence restriction already exists.

Cumulative Effects

15 The cumulative effects analysis of the project was not improved by the Supplement. As pointed out in our DEIS comments, three additional independent sales are being planned for Kupreanof Island for a total cut on the island of around 200 million board feet. Without analyzing the Shamrock Sale in context with past and proposed timber sales on Kupreanof Island, the cumulative effects analysis for wildlife and subsistence does not appear to meet NEPA requirements. A more comprehensive analysis needs to be presented in the FEIS.

Abigail Kimbell

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January 27, 1995

Wolves and Predation

6 | The Supplement does not address the impacts of road construction and timber harvesting on wolves, nor wolf/deer relationships on Kupreanof Island, as we requested in our DEIS comments (pg. 10, state DEIS comments, 12/6/93). A discussion of these issues needs to be presented in the FEIS, especially given that the Alexander Archipelago wolf has been nominated for listing as a threatened species under the Endangered Species Act.

These noted deficiencies, as well as the balance of the concerns expressed in our comments on the DEIS, need to be corrected and addressed in the FEIS. We look forward to reviewing that document and continue to request that we be consulted during the re-evaluation of the deer habitat capability model and in the development of an effective retention strategy for the project area.

Thank you for the opportunity to comment.

Sincerely,



Lana Shea
Regional Supervisor

cc: Ellen Fritts, H&R
Rocky Holmes, SF
Scott Marshall, CFMD
Kim Titus, WC
Bob Schroeder, Sub.
Jack Gustafson, H&R
Dave Hardy, H&R
Janet Schempf, H&R
John Palmes, H&R
Jim Ferguson, ADEC, EQ, Juneau
Jim McAllister, ADNR, DOF, Juneau
Christine Valentine, DGC, Juneau
Nevin Holmberg, USFWS, Juneau

Department of Fish and Game, Southeast Regional Office (#S10)

- Comment S10-1** We are disappointed to see the limited scope of the Supplement relative to the concerns we expressed in our comments on the DEIS... Consequently, all of our DEIS concerns remain valid and we reiterate them by reference.
- Response S10-1** The DEIS Supplement was not intended to respond to comments on the DEIS or to revise the DEIS. Rather it was to address issues that had come up since publication of the DEIS. See Chapter 1 of the Supplement. Concerns ADF&G and others raised in comments to the DEIS are addressed in Appendix F and where appropriate in the FEIS.
-
- Comment S10-2** We continue to strongly recommend that Alternative 3 be selected as the preferred alternative as it appears to provide a viable timber offering while minimizing impacts to subsistence users, fragmentation of old-growth blocks, and timber harvest in the Castle River drainage.
- Response S10-2** Comment noted.
-
- Comment S10-3** As stated in our DEIS comments, the department has long opposed timber harvest in the lower Castle River drainage and requested this area be managed to produce fish and wildlife. Therefore, harvest in the upper reaches of the drainage, especially along the south- and west-facing slopes, should be minimized.
- Response S10-3** See response to DEIS comments 2-2, 3-1, and 9-9.
-
- Comment S10-4** ...several of the culverts proposed for higher gradient class I and II streams will not assure juvenile fish passage as required by AS 16.05.840. These include the CMPs proposed for Station 11+09 of the 45804 Road and those proposed for Stations 14+48, 38+51, and 137+28 of the 45808 Road. According to the Supplement, gradients at these locations range from 4 percent to as much as 60 percent. To meet the intent of AS 16.05.840 (the Fishway Act) and comply with 6 AAC 80.130 of the ACMP, bridges or bottomless arch structures must be installed at these locations and generally would be needed at all other crossings of fish bearing streams where the natural gradient exceeds 2 percent.
- Response S10-4** The management prescription recommended stream crossing structure for Station 11+09 of the 45804 road has been changed to a 96" 0 CMPA which will ensure the passage of resident fishes. Crossing structures at Stations 14+48 and 38+51 for Road 45808 were reevaluated by fisheries biologists and determined to be sufficient to allow fish passage. Natural fish passage in streams with a gradient of 60 percent is highly unlikely; consequently, whatever crossing structure is used will likely have no effect on fish passage at Station 137+28 of Road 45808. Also see response to DEIS comment 9-46.
-
- Comment S10-5** A persistent problem with the EIS is that the Supplement continues to base its analysis of effects on deer and subsistence users on the same habitat capability figures that were used in the DEIS... After more than a year, no one from the ID team has contacted ADF&G on this or any other issue raised in our DEIS comments. This lack of interagency cooperation in the planning process is discouraging and the results are apparent in the Supplement to the DEIS.

We again request that the deer habitat capability model be reviewed in consultation with ADF&G, Division of Wildlife Conservation staff, and that the model outputs be adjusted accordingly prior to publication and release of the FEIS. In addition, the adjectives used to describe habitat values ("average," "good," "unsuitable," "marginal") need to be defined in terms of the Habitat Suitability Index (HSI) values they represent.

Response S10-5

The Habitat Capability Models used were developed in conjunction with ADF&G. The analysis using the Habitat Capability Model has been reevaluated and found to be reasonable. Revisions to the estimates of carrying capacity shown in the DEIS were made by using a polygon-based conversion of HSI value to carrying capacity rather than averaging the HSI value over a particular VCU. The results in the FEIS reflect these revisions. It is important to keep in mind when interpreting the deer population carrying capacity before and after the proposed Shamrock harvest that there is a shift in habitat suitability, not a loss of habitat. Since habitat suitability for deer winter range in much of the Shamrock area is already below average (i.e. $0 \leq \text{HSI} \leq 0.3$), clearcutting shifts the HSI to 0.09, which is still below average. The change in carrying capacity shown for each alternative is then based on shifts in habitat suitability calculated for each polygon.

Changes to the deer habitat capability model are outside the scope of this project level analysis. The revision of the Tongass Land Management Plan will address habitat capability models (including deer) as part of its analysis. This review process will include consultation with ADF&G.

Definitions for the various habitat suitability categories are presented in the FEIS.

We acknowledge the past lack of communication between the Forest Service and ADF&G and, as you are aware, have recently made efforts (joint meeting with ADF&G, USFW, and USFS in March of 1995) to discuss issues for the Shamrock as well as other timber sales now being planned.

Comment S10-6

We requested that the FS select retention areas in consultation with ADF&G, and that the selection process not be constrained by the pre-determined unit pool. Although the SDEIS would have been the appropriate means of adjusting the unit pool to accommodate the interagency development of an effective retention strategy, no adjustments were made and, to our knowledge, no coordination with ADF&G occurred. Consequently, the areas identified for retention are insufficient to provide suitable habitat to maintain minimum viable populations of all species, and sustained yields of old-growth dependent wildlife for hunter and non-consumptive users.

Response S10-6

We believe the retention areas designated for the Shamrock Timber Sale comprise an effective retention strategy. The various areas consist of relatively large blocks of forested land that are generally of higher than average habitat suitability for each VCU. In addition, the retention areas were located at lower elevations within single watersheds and have effective corridors linking them together. This strategy was deemed viable during the joint meeting of the ADF&G, USFW and USFS in March of 1995. Since there has been relatively little previous harvest in the Shamrock area, the designation of an effective retention strategy was not precluded by the Shamrock unit pool.

Comment S10-7

It appears that they (HCAs) were selected primarily for size and spacing reasons, rather than for their value as habitat.

The value of the retention areas in helping to maintain minimum viable populations is questionable due to their low habitat values and the poor connectivity between the remaining old-growth areas due to the proposed 6314 mainline road which would bisect the project area.

Response S10-7

It is true that size and spacing were criteria used to select retention areas, however deer winter range suitability (the highest suitability for deer habitat found in the Shamrock area) was substantially higher in retention areas of VCUs 429 and 438 than for the VCU as a whole:

	VCU 429	VCU 436	VCU 438
	Percent of area having "average" suitability for deer		
Entire VCU before harvest	14.7	3.6	0.9
Within designated retention areas	27.5	2.8	2.4

A 66 foot width of the road right of way occurring between retention areas should not restrict movement of most mammals and birds.

Comment S10-8

Neither the DEIS nor the Supplement contain a strategic road access management plan. Such a plan is needed in the FEIS/ROD.

Response S10-8

A Strategic Road Management Plan has been added to Appendix D of the FEIS. Decisions on which roads will be closed will be made in the Record of Decision.

Comment S10-9

The Supplement inaccurately characterizes the retention areas as being located "...in the lower portions of watershed" (pg. 4-7).

Response S10-9

We have revised the text to "lower elevations of watersheds" rather than "lower portions of the watersheds."

Comment S10-10

Neither the Supplement nor the DEIS appear to include timber logged from road rights-of-way in the timber yield figures, although 500+ acres may be harvested on road rights-of-way.

Response S10-10

The timber volume in road right-of-ways are included in the total timber volumes for each alternative.

Comment S10-11

It appears an unstated purpose of the project is to provide road access to the southern end of Kupreanof Island. This may be a legitimate reason to conduct a substantially deficit timber sale such as this, but it should be identified as one of the reasons for the project.

Response S10-11

The Purpose and Need statement in Chapter 1 has been revised to include the text "providing for long-term transportation needs for Forest Service administration and visitors."

Comment S10-12	In light of the closure of the Sitka mill, the cancellation of the APC long-term contract, the closure of the Wrangell sawmill, the availability to independent operators of timber previously destined for APC, and the significant effects on subsistence uses, we question if there is a compelling reason to proceed with this project... (T)he FS appears to imply that logging can occur at the expense of subsistence uses so long as there are some putative uses for the timber harvested or some management plan objectives to be met. We question whether this determination meets the procedural requirements of (a) (3) (A).
Response S10-12	Market demand for timber in the Tongass National Forest is determined both on an annual and a planning cycle basis. Forecasts of long-term market demand were part of the analyses supporting the Revised Forest Plan (USDA Forest Service 1991d). With respect to estimating annual market demand, current Forest Service policy as stated in the Revised Forest Plan (p. 3-334) "is to base offerings and road construction on harvest levels from the previous year with adjustments for anticipated changes in the market demand for forest products." Changes in market demand resulting from closure of the Sitka and Wrangell mills and the cancellation of the APC contract will certainly be taken into account in both the annual and planning cycle estimates of market demand.
Comment S10-13	We believe that among the action alternatives, Alternative 3 would have the least impact to subsistence uses and, therefore, should be selected as the preferred alternative in the FEIS as per ANILCA.
Response S10-13	See response to comment S7-19. Comment noted.
Comments S10-14	Units 10, 23, 24, 43, 55, and 81 all are in WAA 5133, in which a significant restriction of subsistence use already exists according to the Supplement. Nevertheless, the unit cards state that harvesting of deer winter range in these units "is not mitigated since adequate habitat exists elsewhere." If adequate habitat exists, then there would not be a restriction of subsistence use.
Response S10-14	See response to comment S7-23.
Comment S10-15	The cumulative effects analysis of the project was not improved by the Supplement... Without analyzing the Shamrock Sale in context with past and proposed timber sales on Kupreanof Island, the cumulative effects analysis for wildlife and subsistence does not appear to meet NEPA requirements. A more comprehensive analysis needs to be presented in the FEIS.
Response S10-15	Cumulative effects are addressed in the DEIS and the FEIS. See response to Supplement comments S10-1 and S7-25, and DEIS comment 9-17.
Comment S10-16	The Supplement does not address the impacts of road construction and timber harvesting on wolves, nor wolf/deer relationships on Kupreanof Island, as we requested in our DEIS comments (pg. 10, State DEIS comments, 12/6/93).
Response S10-16	A discussion of impacts to Alexander Archipelago wolf has been added to Chapter 4 of the FEIS. See response to DEIS comment 9-26 concerning wolf-deer relationships.

MEMORANDUM

Stikine Area	
FEB 3 '95	
Forest Supv	
P.I.O.	
A.O.	
Eng. Staff	
P & WL Staff	
Planning Staff	
RL Staff	
S & W Staff	
Timber Staff	
Perms. Dist.	
Wmng. Dist.	

State of Alaska

Department of Environmental Conservation

TO: Christine Valentine
OMB/DGC

DATE: January 27, 1995

FEB - 7 1995

THRU:

FILE NO:

TELEPHONE NO: 465-5365

FROM: Jim Ferguson *Jim F*
Program Coordinator, Forest Practices
Southeast Regional Office

SUBJECT: Shamrock SDEIS

The Department of Environmental Conservation has reviewed the supplemental DEIS for the Shamrock Timber Sale. The sale is located on Kupreanof Island, and proposes to harvest 44 MMBF of timber, and to construct 54 miles of road. The LTF at Little Hamilton Bay will be used.

These comments are intended to assist the Forest Service in preparing a FEIS/R.O.D. that will comply with the Clean Water Act and the Alaska Coastal Management Program.

I. NEPA Comment

The primary reason why the financial returns for this sale are poor is the large amount of north/south mainline road building proposed, versus the amount of timber harvested. The logical conclusion is that the primary purpose and need of the project is to extend the road system to the south end of Kupreanof Island, to access future timber sales. This purpose and need is not expressed, either in the introduction to the SDEIS, or in the preferred alternative. Further, the environmental impacts associated with the building of this road, and the anticipated future timber harvest that can reasonably be anticipated to result pursuant to having the road in place, were not discussed.

The FEIS should clearly state that the purpose and need of the project is the extension of the road system to the southern end of Kupreanof Island, to access future timber sales. The environmental impacts of the Shamrock Timber Sale, and an estimate of the cumulative impacts from future timber sales should be discussed. Alternatively, a timber sale should be proposed that concentrates timber harvest in the northern section of the sale area, thereby building a relatively small amount of mainline road relative to the amount of timber harvested (e.g. Alternative 3, or some modification of it).

II. ACMP Comment

2 Road Management Objectives: ADEC is concerned that the RMO for some of the roads proposed in the Preferred Alternative are unrealistic, and could result in water quality degradation. Specifically, the RMO for Roads 45803, 45804, 45808, and 45809 is "2," which implies that these roads will remain open and will be maintained. If these roads are not closed (RMO "1") but are not maintained, as is often the case for similar roads, then water quality problems could occur due to ditch blockage, surface erosion, and stream-crossing and cross-drain structure failure. Note that the RMO for Roads 45800, 45806, and 45906 is "1," which appears to be more realistic. The FEIS should evaluate the proposed RMO "2" ratings in light of the probability that maintenance will actually occur, and the risks of degradation of water quality that exist if maintenance does not occur.

III. Clean Water Act, Section 319 Comments

A. Monitoring Plan:

3 ADEC suggests, in light of the approval of the Stikine Area Effectiveness Monitoring Strategy (5/2/94), that the monitoring plan for the Shamrock Timber Sale be revisited, to determine if this sale offers opportunities to implement any part(s) of the Strategy.

B. Cumulative Effects Analysis:

4 ADEC acknowledges that, given the low levels of timber harvest and road construction proposed in each watershed in the project area, a cumulative effects analysis is probably not necessary. However, a discussion of the reasons why such an analysis is not needed should be included in the FEIS. If future entries are anticipated, then a discussion of the cumulative effects of current and future entries is appropriate.

C. Unit and Road Cards:

5 ADEC has reviewed the unit and road cards for this timber sale in more detail than was possible for the original DEIS. Our DEIS comments on the lack of specificity for stream protection measures (e.g. "B" versus "C" measures) still apply. Further, it appears, from examining the road cards, that there are many Class III streams and, potentially, some fish streams that are not shown on the unit maps and which, therefore, have no protection measures/BMPs prescribed for them.

5

A good example is Road 45808, which passes through Units 8, 13, and 10. On the unit cards, two stream crossings are shown within and two adjacent to these units. However, the road card shows 3 - Class I crossings, 2 - Class II crossings, and 10 - Class III crossings. Other road cards suggest that similar conditions exist for other units. The unit cards in the FEIS should display all field-verified and GIS-mapped streams, and should include stream-specific prescriptions that clearly demonstrate that BMPs and Timber Sale Contract clauses are being and will be implemented.

We appreciate the opportunity to comment.

cc: Mike Conway, ADEC, Juneau
Lana Shea, ADF&G, Juneau
Jack Gustafson, ADF&G, Ketchikan
Jim McAlister, ADNR, Juneau
Wayne Elson, USEPA, Seattle
Abigail Kimbell, USFS, Petersburg ✓
Patricia Grantham, USFS, Petersburg
Julianne Thompson, USFS, Petersburg

State of Alaska, Department of Environmental Conservation (#S11)

Comment S11-1

The primary reason why the financial returns for this sale are poor is the large amount of north/south mainline road building proposed, versus the amount of timber harvested. The logical conclusion is that the primary purpose and need of the project is to extend the road system to the south end of Kupreanof Island, to access future timber sales... The FEIS should clearly state that the purpose and need of the project is the extension of the road system to the southern end of Kupreanof Island, to access future timber sales. The environmental impacts of the Shamrock Timber Sale, and an estimate of the cumulative impacts from future timber sales should be discussed.

Response S11-1

The relative economic efficiencies of the four alternatives are presented in the Economics sections of Chapter 4. Road 6314 (the main north-south road proposed for the Shamrock Timber Sale) is an important component of the mid-market analysis used to make these estimates. Alternative 3, which has the shortest length of the main north-south road, has the least economic efficiency; Alternative 2, which shares with Alternative 4 the longest proposed length of this road, has the highest economic efficiency. The Purpose and Need statement in Chapter 1 of the FEIS has been revised to indicate that development of a transportation system is one of the stated needs of the sale.

Comment S11-2

Road Management Objectives: ADEC is concerned that the RMO for some of the roads proposed in the Preferred Alternative area are unrealistic, and could result in water quality degradation... The FEIS should evaluate the proposed RMO "2" ratings in light of the probability that maintenance will actually occur, and the risks of degradation of water quality that exist if maintenance does not occur.

Response S11-2

Post-harvest road maintenance levels have been reevaluated and additional information regarding post-harvest road closure and management prescriptions have been provided in the FEIS.

Comment S11-3

ADEC suggests, in light of the approval of the Stikine Area Effectiveness Monitoring Strategy (5/2/94), that the monitoring plan for the Shamrock Timber Sale be revisited, to determine if this sale offers opportunities to implement any part(s) of the Strategy.

Response S11-3

We have reviewed the monitoring proposed for this project and feel it is consistent with the Stikine Area Effectiveness Monitoring Strategy. Specific monitoring projects proposed for this project can be found in both the Draft and Final EIS.

Comment S11-4

ADEC acknowledges that, given the low levels of timber harvest and road construction proposed in each watershed in the project area, a cumulative effects analysis is probably not necessary. However, a discussion of the reasons why such an analysis is not needed should be included in the FEIS. If future entries are anticipated, then a discussion of the cumulative effects of current and future entries is appropriate.

Response S11-4

Watershed cumulative effects are discussed in Chapter 4 of both the DEIS and FEIS.

Comment S11-5

It appears, from examining the road cards, that there are many Class III streams, and, potentially, some fish streams that are not shown on the unit maps and which, therefore, have no protection measures/BMPs prescribed for them... The unit cards in the FEIS should display all field-verified and GIS-mapped streams, and should

include stream-specific prescriptions that clearly demonstrate that BMPs and Timber Sale Contract clauses are being and will be implemented.

Response S11-5

All Class III streams within units that were determined by the IDT to be resource concerns or required mitigation were mapped. Criteria used to determine if streams were not a resource concern included limited capacity to deliver sediment, well-vegetated banks, lack of incision, and intermittent flow. Those Class III streams within units that were not mapped were still noted on the road cards, since each stream required some kind of crossing structure.



REPLY TO
ATTENTION OF:

DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DISTRICT, ALASKA
JUNEAU REGULATORY FIELD OFFICE
JORDAN CREEK CENTER
8800 GLACIER HWY, SUITE 106B
JUNEAU, ALASKA 99801-8079

February 1, 1995

Regulatory Branch
Enforcement Section
9-680037

FEB - 7 1995

Ms. Abigail R. Kimbell
U.S. Forest Service
Post Office Box 309
Petersburg, Alaska 99833

Dear Ms. Kimbell:

This is in response to the October, 1994, Shamrock Timber Sale Supplement to the Draft Environmental Impact Statement, which was received on December 19, 1994, and the Wetland Resource Inventory Report which was provided by EA Engineering, Science, and Technology on January 18, 1995. The proposed project involves timber harvest activities on Kupreanof Island, near Petersburg, Alaska.

Based on information contained in the Wetland Resource Inventory Report and on other information available to this office, we have determined that wetlands and waters which are under the Corps of Engineers' (Corps) regulatory jurisdiction occur within the project area. The Corps' regulatory authorities that relate to timber harvest operations, are based on two laws. Section 10 of the Rivers and Harbors Act of 1899 (33 USC 403) prohibits the obstruction or alteration of navigable waters of the United States (U.S.) without a permit from the Corps. In addition, Section 404 of the Clean Water Act (33 USC 1344) prohibits the discharge of dredged or fill material into waters of the U.S., including wetlands, without a Department of the Army permit.

Wetlands are defined as areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. These areas include "muskegs", forested swamps, marshes, bogs, and similar areas.

Generally, normal silviculture activities for the production of forest products, which are part of an ongoing operation, are not subject to regulation under Section 404 of the Clean Water Act. To fall under this exemption, such activities shall not result in a

LETTER #312

Stikine Area

FEB 3 '95

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<input type="checkbox"/>	F.I.O.	
<input type="checkbox"/>	A.C.	
<input type="checkbox"/>	Eng. Staff	
<input type="checkbox"/>	F & WL Staff	
<input type="checkbox"/>	Planning Staff	
<input type="checkbox"/>	RL Staff	
<input type="checkbox"/>	S & W Staff	
<input type="checkbox"/>	Timber Staff	
<input checked="" type="checkbox"/>	Pubg. Dist.	
<input type="checkbox"/>	Wrngl. Dist.	
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conversion of an area of the waters of the U.S. to a use to which it was not previously subject, whereby the flow or circulation of waters of the U.S. may be impaired or the reach of such waters reduced.

2 The construction or maintenance of forest roads, where such roads are constructed and maintained in accordance with Best Management Practices to assure that flow and circulation patterns and chemical and biological characteristics of waters of the U.S. are not impaired, that the reach of the waters of the U.S. is not reduced, and that any adverse effect on the aquatic environment will be otherwise minimized, is exempt from regulation under Section 404 of the Clean Water Act. These Best Management Practices, which must be applied to satisfy this requirement, include the following provisions:

a. Permanent access roads and skid trails in waters of the U.S. shall be held to the minimum feasible number, width, and total length consistent with the purpose of specific silvicultural operations and local topographic and climatic conditions;

b. All roads shall be located sufficiently far from streams or other water bodies (except for portions of such roads which must cross water bodies) to minimize discharges of dredged or fill material into waters of the U.S.;

c. The logging road shall be bridged, culverted, or otherwise designed to prevent the restriction of expected flood flows;

d. The logging road fill shall be properly stabilized and maintained during and following construction to prevent erosion;

e. Discharges of dredged or fill material into waters of the U.S. to construct a logging road shall be made in a manner that minimizes encroachment of trucks, tractors, bulldozers, or other heavy equipment within waters of the U.S. (including adjacent wetlands) that lie outside the lateral boundaries of the fill itself;

f. In designing, constructing, and maintaining logging roads, vegetative disturbance in waters of the U.S. shall be kept to a minimum;

g. The design, construction and maintenance of logging road stream crossings shall not disrupt the migration or other movement of those species of aquatic life inhabiting the waterbody;

h. Borrow material shall be taken from upland sources whenever feasible;

i. The discharge shall not take, or jeopardize the continued existence of a threatened or endangered species as defined under the

-3-

Endangered Species Act, or adversely modify or destroy the critical habitat of such species;

j. Discharges into breeding and nesting areas for migratory waterfowl, spawning areas, and wetlands shall be avoided if practical alternatives exist;

k. The discharge shall not be located in the proximity of a public water supply intake;

l. The discharge shall not occur in areas of concentrated shellfish production;

m. The discharge shall not occur in a component of the National Wild and Scenic River System;

n. The discharge of material shall consist of suitable material free from toxic pollutants in toxic amounts; and

o. All temporary fills shall be removed in their entirety and the area restored to its original elevation.

In addition, the construction of new or the modification of existing log transfer facilities within navigable waters or other waters of the U.S., including wetlands, requires prior authorization from this office under Section 10 of the Rivers and Harbors Act of 1899 and/or Section 404 of the Clean Water Act.

Nothing in this letter shall be construed as excusing you from compliance with other Federal, State, or local statutes, ordinances, or regulations which may affect any proposed work. For informational purposes, a copy of this letter is being sent to the agencies on the enclosed list.

We appreciate your cooperation with the Corps' Regulatory Program. Please refer to file number 9-680037 in future correspondence or if you have any questions concerning this determination. You may contact me at the above address, by telephone at 1-907-790-4490, or FAX at 1-907-790-4499.

Sincerely,



Ralph W. Thompson
Juneau Regulatory Field Officer

Enclosure

Copies Furnished:

Ms. Amy Crook
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Douglas, Alaska 99824-0020

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Division of Governmental Coordination
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Juneau, Alaska 99811-0030

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Dr. Steven T. Zimmerman
Chief, Protected Resources
Management Division
National Marine Fisheries Service
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Juneau, Alaska 99802-1668

Mr. Andrew w. Pekovich
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Southeast Regional Office
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Juneau, Alaska 99811-1724

Ms. Judith Bittner
Alaska Department of Natural Resources
State Historic Preservation Office
Pouch 10-7001
Anchorage, Alaska 99510

Department of the Army, U.S. Army Engineer District (#S12)

- Comment S12-1** Based on information contained in the Wetland Resource Inventory Report and on other information available to this office, we have determined that wetlands and waters which are under the Corps of Engineers' (Corps) regulatory jurisdiction occur within the project area.
- Response S12-1** Comment noted.
-
- Comment S12-2** The construction or maintenance of forest roads, where such roads are constructed and maintained in accordance with Best Management Practices...is exempt from regulation under Section 404 of the Clean Water Act.
- Response S12-2** Comment noted.
-
- Comment S12-3** In addition, the construction of new or the modification of existing log transfer facilities within navigable waters or other waters of the U.S., including wetlands, requires prior authorization from this office under Section 10 of the Rivers and Harbors Act of 1899 and/or Section 404 of the Clean Water Act.
- Response S12-3** No modification of existing log transfer facilities or construction of new log transfer facilities is planned for the Shamrock Timber Sale.
-



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue
Seattle, Washington 98101

January 25, 1995

LETTER #5-13
RECEIVED

JAN 30 1995

REPLY TO
ATTN OF:

WD-125

EA Engineering Science & Technology
Northwest Operations

Ron Bockelman
EA Engineering, Science & Technology
8520 154th Avenue NE
Redmond, Washington 98052

Dear Mr. Bockelman:

In accordance with our responsibilities under the National Environmental Policy Act (NEPA) and §309 of the Clean Air Act, we have reviewed the Supplement to the Draft Environmental Impact Statement (EIS) for the **Shamrock Timber Sale(s)**. This Supplemental Draft EIS evaluates modifications to four action alternatives on Kupreanof Island in the Stikine Area of the Tongass National Forest.

Based on our previous review and the additional information contained in the Supplemental Draft EIS we are rating this document EC-2 (Environmental Concerns - Insufficient Information).

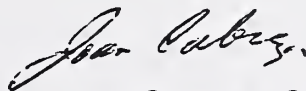
We have attached our comment letter on the Draft EIS to reiterate our concerns that Alaska Water Quality Standards (WQS) will be met and beneficial uses are protected. We also requested additional information on compliance with WQS, mitigation effectiveness, cumulative effects, site specific monitoring, and noise effects.

Page 2-3 of the Supplemental Draft EIS states, "It is Forest Service direction to use an ecological approach in managing National Forest lands....(that) includes the use of alternative silviculture and a reduction in the use of clearcutting as a forest management practice." The Draft EIS states on page 4-6 that the action alternatives will clearcut 94 to 99 percent of the acres. We understand there is a negative estimated net value reflecting the initial capital investment in specified road construction, and that clearcutting is the most cost effective way to harvest timber, but are disappointed that alternative silviculture techniques are such a small percentage of the total harvest area. We encourage you to incorporate additional alternative silviculture techniques into your timber sales to the maximum extent possible, both now and in the future.

2 We are pleased the forest service has addressed the need for a strategy to maintain viable populations of old growth-dependent species by reserving Habitat Conservation Areas. We appreciate your attention to the proposed amendment to the Tongass Land Management Plan, for protection of goshawk habitat, and assume you will incorporate it into the Final EIS where relevant.

Thank you for the opportunity to review this Supplemental Draft EIS. Please contact Sue Ennes at (206) 553-0958 if you have any questions about our comments.

Sincerely,



Joan Cabreza, Chief
Environmental Review Section

Enclosures: Draft EIS comment letter

cc: Jim Ferguson, ADEC

SUMMARY OF THE EPA RATING SYSTEM
FOR DRAFT ENVIRONMENTAL IMPACT STATEMENTS:
DEFINITIONS AND FOLLOW-UP ACTION *

LETTER #513, P.3

Environmental Impact of the Action

LO--Lack of Objections

The EPA review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

EC--Environmental Concerns

The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce the environmental impact. EPA intends to work with the lead agency to reduce these impacts.

EO--Environmental Objections

The EPA review has identified significant environmental impacts that should be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no-action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

EU--Environmentally Unsatisfactory

The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potential unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the CEQ.

Adequacy of the Impact Statement

Category 1--Adequate

EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis of data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

Category 2--Insufficient Information

The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses, or discussion should be included in the final EIS.

Category 3--Inadequate

EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the NEPA and/or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

* From EPA Manual 1640 Policy and Procedures for the Review of Federal Actions Impacting the Environment

February, 1987

United States Environmental Protection Agency (#S13)

Comment S13-1

(We) are disappointed that alternative silviculture techniques are such a small percentage of the total harvest area. We encourage you to incorporate additional alternative silviculture techniques into your timber sales to the maximum extent possible, both now and in the future.

Response S13-1

Alternative silviculture has been prescribed where possible in planning the Shamrock Timber Sale. See response to DEIS comment 8-10 (Appendix F).

Comment S13-2

We are pleased the forest service has addressed the need for a strategy to maintain viable populations of old growth-dependent species by reserving Habitat Conservation Areas. We appreciate your attention to the proposed amendment to the Tongass Land Management Plan, for protection of goshawk habitat, and assume you will incorporate it into the Final EIS where relevant.

Response S13-2

Thank you for your comment. It is not anticipated that a decision on the Viable Populations Environmental Assessment will be made prior to publication of the Shamrock FEIS. However, if it is, the Shamrock FEIS will be consistent with that decision.



United States Department of the Interior

OFFICE OF THE SECRETARY

Office of Environmental Policy and Compliance
1688 C Street, Room 119
Anchorage, Alaska 99501-5126

LETTER 514

RECEIVED
JAN 27 1995

ER94-952

JAN 26 1995

Ms. Abigail Kimbell
Forest Supervisor, Stikine Area
15 - 12th Street
P.O. Box 309
Petersburg, Alaska 99833

Dear Ms. Kimbell:

In response to your request of December 1, 1994, the Department of the Interior has reviewed the October 1994 Supplement to the Draft Environmental Impact Statement (DEIS) for the Shamrock Timber Sale. We offer the following additional comments to be considered in the Final Environmental Impact Statement (FEIS).

CONNECTIVITY

1 We emphasize the need to consider composition of habitats outside Habitat Conservation Areas (HCA), also termed the "habitat matrix". Connectivity by old-growth forest between the proposed small HCAs appears to be weak given the large numbers of roads and proposed harvest units in these areas. We recommend maps depicting composition of the full habitat matrix as it relates to population viability be included to enable a meaningful assessment of connectivity. The designation of the Castle River, Keku Creek, Irish Lakes and Tuncnean Creek under the Wild and Scenic Rivers Act (1968) could provide connectivity between HCAs 429B, 429C, 436A, and 436B. We are concerned about the degree of overlap of several proposed harvest units with the Tuncnean and Castle drainages. We suggest that harvest units 20, 24, 81, 29, 32, 31, and 51 be re-evaluated in order to maintain the integrity of these eligible wild and scenic river corridors and their habitats. We believe the FEIS should illustrate how the proposed small HCAs connect with the larger protected blocks of land near Rocky Pass and to the north and west of Duncan Canal.

ROADS

4 We believe the FEIS should evaluate the indirect effects to species viability of extending the Shamrock area road system to the existing road network serving the community of Kake. We recommend this analysis be specific about the effects of increased human access via these roads on the existing wolf population.

CATEGORY 2 SPECIES

We believe the following Category 2 candidate species not considered in the Supplement to the DEIS may occur in the project area and should be added to the species discussed in the FEIS:

- 5
- The Alexander Archipelago wolf (Canis lupus ligoni) is currently a Category 2 candidate species (Federal Register May 20, 1994).
 - Other Federally listed Category 2 candidate species are the marbled murrelet (Brachyramphus marmoratus), harlequin duck (Histrionicus histrionicus) and spotted frog (Rana pretiosa).
 - A Category 2 plant species: Calamagrostis crassiglumis.

ALEXANDER ARCHIPELAGO WOLF

6 Sitka black-tailed deer, the primary prey of wolves on most of the islands, prefer old growth over early successional forests, and have been found to use old growth almost exclusively during winter and spring (Schoen and Kirchhoff, 1990). Long-term degradation of this habitat at the regional scale, combined with increased access through a developing road system, may threaten long-term population viability of the species in southeast Alaska. Wolves are present on the Kupreanof Island and are thought to exist in or near the Shamrock area. We recommend that the wolf be included in the environmental review.

MARbled MURRELET

7 All data collected to date on the marbled murrelet substantiate the species' use and selection of older-aged forests for their nesting sites (Nelson, 1992). The proposed harvest would result in the loss of this habitat, and cumulative impacts of region-wide cutting could adversely affect marbled murrelet populations in the Shamrock area. We suggest that preliminary pre-breeding flight counts and intensive inventory surveys during the breeding season (May 15 through August 15) be conducted for the sale area and the results included in the FEIS.

NORTHERN GOSHAWK

8 We believe that for those goshawk nests identified in the Shamrock project area to date, the July 1994 guidelines agreed upon by the goshawk committee convened on October 26-28, 1994 should be followed. Earlier Interim Guidelines for Goshawk Habitat Management (1993) are ineffective because they do not adequately address the protection of important foraging habitat within the home range. We suggest that preliminary surveys be conducted for at least two years during mid-June through mid-August in the proposed timber sale area and surrounding value comparison units. We believe the analysis of survey data and the effects this sale could have on the northern goshawk should be completed before the FEIS stage.

HARLEQUIN DUCK

9 Harlequin ducks nest adjacent to inland streams and rivers, commonly using nearshore coastal waters throughout the year. The effect of the proposed action on harlequin ducks depends on the nature and time of site specific activities. Significant disturbance near stream habitat, particularly during the nesting period, could adversely affect harlequin ducks within the project area. We recommend this be addressed prior to the FEIS stage.

Should you have questions or require any additional information regarding these comments, you may contact Carol Hale at U.S. Fish and Wildlife Service, Ecological Services, Juneau Office, (907) 586-7240.

Sincerely,



Regional Environmental Officer - Alaska

United States Department of the Interior, Office of Environmental Policy and Compliance (#S14)

- Comment S14-1** Connectivity by old-growth forest between the proposed small HCAs appears to be weak given the large numbers of roads and proposed harvest units in these areas. We recommend maps depicting composition of the full habitat matrix as it relates to population viability be included to enable a meaningful assessment of connectivity.
- Response S14-1** Examination of Figures 3-3a and 4-2 indicate that effective wildlife corridors remain between most adjacent retention areas, with the exception of that between areas 429a and 436a (where forest is not continuous even under existing conditions). We do not believe that the 66 foot width of road right-of-ways constitutes a barrier to most mammals and birds potentially moving between retention areas.
-
- Comment S14-2** We are concerned about the degree of overlap of several proposed harvest units with the Tunehean and Castle drainages. We suggest that harvest units 20, 24, 81, 29, 32, 31, and 51 be re-evaluated in order to maintain the integrity of these eligible wild and scenic river corridors and their habitats.
- Response S14-2** If the Forest Plan Revision is not completed prior to this project, Units 20, 24, 81, 29, 32, 31, and 51 would have to be deleted from the project if Alternative 2 is selected. No other alternatives propose units within the river corridor of eligible Wild and Scenic Rivers.
-
- Comment S14-3** We believe the FEIS should illustrate how the proposed small HCAs connect with the larger protected blocks of land near Rocky Pass and to the north and west of Duncan Canal.
- Response S14-3** The FEIS includes additional text about linkage of retention areas among one another and with proposed medium HCAs outside of the study area.
-
- Comment S14-4** We believe the FEIS should evaluate the indirect effects to species viability of extending the Shamrock area road system to the existing road network serving the community of Kake. We recommend this analysis be specific about the effects of increased human access via these roads on the existing wolf population.
- Response S14-4** Impacts to Alexander Archipelago wolf are discussed in the FEIS.
-
- Comment S14-5** We believe the following Category 2 candidate species not considered in the Supplement to the DEIS may occur in the project area and should be added to the species discussed in the FEIS: Alexander Archipelago wolf (Canis lupus ligoni)...marbled murrelet (Brachyramphus marmoratus), harlequin duck (Histrionicus histrionicus) and spotted frog (Rana pretiosa)...a category 2 plant species: Calamagrostis crassiglumis.
- Response S14-5** Of the Category 2 species you list, the marbled murrelet, spotted frog, and Calamagrostis crassiglumis were addressed in the Shamrock DEIS. As mentioned just above, impacts to wolf are addressed in the FEIS. Potential impacts to harlequin duck are also discussed in the FEIS.
-

Comment S14-6	Wolves are present on the Kupreanof Island and are thought to exist in or near the Shamrock area. We recommend that the wolf be included in the environmental review.
Response S14-6	See response to S14-4 above.
Comment S14-7	We suggest that preliminary pre-breeding flight counts and intensive inventory surveys (for marbled murrelets) during the breeding season (May 15 through August 15) be conducted for the sale area and the results included in the FEIS.
Response S14-7	Flight counts and intensive inventory surveys for marbled murrelet were conducted. Data and detailed discussion of these surveys are found in the Wildlife Resource Inventory Report (Fendick and Gunther 1993), and a summary of the results was presented in the DEIS.
Comment S14-8	We believe that for those goshawk nests identified in the Shamrock project area to date, the July 1994 guidelines agreed upon by the goshawk committee convened on October 26-28, 1994 should be followed... We suggest that preliminary surveys be conducted for at least two years during mid-June through mid-August in the proposed timber sale area and surrounding value comparison units. We believe the analysis of survey data and the effects this sale could have on the northern goshawk should be completed before the FEIS stage.
Response S14-8	This analysis utilizes the 1992 <i>Interim Guidelines for Goshawk Management</i> . When and if one of the alternatives of the Viable Populations Environmental Assessment is adopted, Forest Service policy on goshawk management to provide species viability will be consistent with that decision.
Comment S14-9	The effect of the proposed action on harlequin ducks depends on the nature and time of site specific activities. Significant disturbance near stream habitat, particularly during the nesting period, could adversely affect harlequin ducks within the project area. We recommend this be addressed prior to the FEIS stage.
Response S14-9	Expected impacts to harlequin duck are discussed in the Wildlife section of Chapter 4 of the FEIS.

LETTER S-15 (late)**Ketchikan Pulp Company***A wholly owned subsidiary of Louisiana-Pacific Corporation*

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February 8, 1995

Mr. Ron Bockelman
EA Engineering, Science, & Technology
8520 154th Avenue N.E.
Redmond, WA 98052

Re: Shamrock Timber Sale

Dear Mr. Bockelman:

Ketchikan Pulp Company (KPC) would like this opportunity to provide additional comments on the Shamrock Draft Environmental Impact Statement (DEIS) and the Shamrock Supplement to the DEIS (SDEIS). Following are KPC's supplemental comments and concerns, in addition to our earlier letter.

KPC feels the Shamrock SDEIS does not present a full range of alternatives by not considering harvest units which are inconsistent with the proposed HCA concept. By not considering such units, the Forest Service is illegally and in a defacto manner implementing HCAs. To present a full range of alternatives, units within HCAs must be considered, analyzed and selected if consistent with the project.

The range of alternatives is also incomplete because there is no alternative to maximize timber volume from the sale area. An alternative to maximize timber volume is within the reasonable range of proposals and must be considered.

Due to the shortage of timber supply, we do not support further delay in the release of the timber covered by the EIS. Rather, we believe a record of decision should be signed. Thus, a supplemental EA or EIS tiered to the EIS should be prepared to cover the additional volume.

The Shamrock SDEIS does not show how this project will "seek to meet" the market demand for the existing industry. The Tongass Timber Reform Act requires such an analysis. The maximum timber production alternative would be a giant step in this effort,

OPERATING DIVISIONS

WARD COVE PULP MILL
THORNE BAY LOG

KETCHIKAN SAWMILL
TUXEKAN LOG
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Mr. Ron Bockelman
February 8, 1995
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but not total. You must determine the level at which this project "seeks to meet" market demand.

The SDEIS is in violation of the Federal Advisory Committee Act (FACA) by creating "small" HCAs consistent with the recommendations of the Viable Population Committee (VPOP). The VPOP Committee was composed of private citizens and state and federal workers who made recommendations to the Forest Service. The committee was clearly a violation of FACA, and therefore these areas should be removed and considered for harvest in the proposed tiered supplement described above.

The implementation of ecosystem management concepts is a violation of TLMP. At no time has TLMP been amended to include the concepts outlined in the SDEIS. These concepts should not be included in the Shamrock Timber Sale SDEIS.

The SDEIS fails to provide mitigating proposals for concerns regarding potential future declines in deer populations. While KPC does not subscribe to a potential decline theory it does believe the SDEIS should propose "precommercial thinning and commercial thinning" as mitigating measures.

KPC believes thinning practices would provide more deer habitat faster and result in more potential deer increases. It would also provide wood fiber to area mills and jobs for communities.

In addition, you should disclose that your deer population model is only adequate for comparison of alternatives. It is not adequate for determining actual numbers or comparing those numbers with the current population.

We are at a loss in figuring exactly how the sensitive species list affects this sale since "none of the listed plant species occur on the Timber Sale area". KPC would also like to know what, if any, scientific basis is used in determining "sensitive" species, is there a scientific basis or are these species nominated to the list because one person or group of persons has a particular fondness for the species?

The Tunehean Creek and Castle River, while on someone's proposed wild and scenic river lists, do not appear to be adversely affected by the proposed harvest that would occur in alternative 2. Proposed harvest units touch the furthest reaches of a few of the tributaries leading to the Castle River, these would most likely be protected by some type of stream

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buffer and, therefore, would not be impacted by harvest in this area. The harvest units do not come close to the Tunchcan or any of its tributaries.

KPC finds it interesting that the communities of Point Baker and Port Protection were considered subsistence users in the proposed Shamrock Timber Sale area. These two communities already claim subsistence use of an area from Sea Otter Sound to Kuiu Island to northern Kupreanof Island to Zarembo Island. This area of use seems very large in relation to the small population of residents. In addition, the closing of KPC's Labouchere Bay camp has, in all probability, reduced the hunting demand on deer in the area, thereby leaving more deer for these communities.

With the recent closures of both the APC pulp mill in Sitka and the APC sawmill in Wrangell we believe populations of affected communities should be re-calculated and assumed growth rates of these populations should be reduced.

Of the current choices, Alternative 2 is preferred. This alternative does require additional harvest units to help offset the road costs, but would provide more jobs and income for the surrounding communities, more recreational and subsistence opportunities and would create a higher income contribution to the GNP. However, we strongly believe Alternative 2 should be supplemented with a tiered EA/EIS that provides more volume.

With 90% of the Tongass already set aside for wilderness, wildlife, unroaded recreation etc., restricting economic opportunities for the communities of Southeast Alaska by severely restricting the forest products industry which contributes heavily to the income and lives of these people by not allowing timber harvest on the remaining 10% of the Tongass seems absurd. KPC does not want to see any animal or plant species annihilated, nor does KPC want to harm streams and rivers or ruin scenic viewsheds. We believe management practices now in place will protect these resources. In addition, timber harvest will provide jobs, money, and a product that will benefit the people of these communities and nation.

Sincerely,



O.J. Graham

Timber Division Manager

OJG:ak

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LETTER SIS, P.4

Mr. Ron Bockelman

February 8, 1995

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cc: The Honorable Ted Stevens
The Honorable Frank Murkowski
The Honorable Don Young
The Honorable Robin Taylor
The Honorable Bill Williams
The Honorable Jerry Mackie
Ralph Lewis, KPC General Manager
Troy Reinhart, KPC Employee Relations/Pub. Affairs Mgr.
John Sportsman, KPC Sawmill Manager
Chris Gates, Alaska Forest Association
Phil Janik, Regional Forester
Petersburg Pilot

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